



AUG 06 2015

Mr. Mathew Towers  
O'Neill Beverages Co., LLC  
8418 S. Lac Jac Avenue  
Parlier, CA 93654

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)  
District Facility # C-629  
Project # C-1151244**

Dear Mr. Towers:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. You requested that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. O'Neill Beverages Co., LLC has proposed the installation of 66 new stainless steel wine storage tanks, of various capacities, insulated and equipped with pressure relief valves which will be included in three different existing Specific Limiting Conditions (SLCs).

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authorities to Construct with Certificates of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

**Seyed Sadredin**

Executive Director/Air Pollution Control Officer

**Northern Region**

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Mr. Mathew Towers  
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Thank you for your cooperation in this matter.

Sincerely,



Arnaud Marjollet  
Director of Permit Services

Enclosures

cc: Mike Tollstrup, CARB (w/enclosure) via email  
cc: Gerardo C. Rios, EPA (w/enclosure) via email

# San Joaquin Valley Air Pollution Control District

## Authority to Construct Application Review

(Wine Storage Tanks)

Facility Name: O'Neill Beverages Co., LLC  
Mailing Address: 8418 S. Lac Jac Ave.  
Parlier, CA 93654  
Contact Person: Mathew Towers  
Telephone: (559) 638-3544  
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E-Mail: [mtowers@oneillwine.com](mailto:mtowers@oneillwine.com)

Date: August 3, 2015

Engineer: Derek Fukuda

Lead Engineer: Joven Refuerzo

Application #(s): C-629-289-8 through -302-8, -303-7 through -320-7, -325-5 through -332-5, -333-6 through -378-6, -379-5, -380-5 -381-6, -382-6, -383-5 through -387-5, -388-3 through -399-3, -400-4, -401-5, -402-4 through -423-4, -424-3 through -429-3, -430-7, -431-7, -436-3 through -443-3, -446-2 through -465-2, -466-1 through -489-1, -490-2 through -493-2, -559-1 through -576-1, and -577-0 through -642-0

Project #: C-1151244

Deemed Complete: June 11, 2015

### I. Proposal

O'Neill Beverages Co., LLC (O'Neill Beverages) has requested Authority to Construct (ATC) permits for the installation of 66 new stainless steel wine storage tanks, of various capacities. All the new tanks will be insulated and equipped with Pressure Relief Valves (PRV). In addition, the facility has proposed to include the new tanks in three existing VOC storage emissions Specific Limiting Conditions (SLCs) as shown below:

New Tanks	Existing SLC Limit	Tanks in Existing SLC
-577 through -604, and -642	5,000 lb-VOC/year	-383 through -431, and -563 through -576
-605 through -629	9,333 lb-VOC/year	-436 through -443, -446 through -493, and -559 through -562
-630 through -641	8,991 lb-VOC/year	-289 through -320, -325 through -382

Currently the facility has several unconverted ATCs (See Appendix B). These ATCs will be required to be implemented prior to or concurrent with the implementation of their corresponding ATCs issued in this project. To ensure the proper implementation order of these permits, the following condition will be added to all ATCs in this project with unimplemented ATCs:

- Authority to Construct (ATC) C-629-XXX-0 shall be implemented concurrently, or prior to the modification and startup of the equipment authorized by this Authority to Construct. [District Rule 2201]

The permits for the existing tanks in this project are solely being modified to include the new wine storage tanks in the existing storage emission SLCs. Pursuant to District Policy APR 1420, *NSR Calculations for Units with Specific Limiting Conditions*, the modification of existing SLCs to solely include emissions units, where the existing units are specifically listed within the SLC will require a modification to the existing permit units in the SLC, but will not be considered an NSR modification. Therefore, the proposed modifications to the existing tanks in this project are not NSR modifications.

O'Neill Beverages received their Title V Permit on July 31, 2010. This modification is classified as a Title V significant modification pursuant to Rule 2520, and will be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. O'Neill Beverages must apply to administratively amend their Title V permit.

## II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4102	Nuisance (12/17/92)
Rule 4623	Storage of Organic Liquids (5/19/05)
Rule 4694	Wine Fermentation and Storage Tanks (12/15/05)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)	
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines	

## III. Project Location

The facility is located at 8418 S. Lac Jac Avenue in Parlier, CA. The District has verified that the equipment is located within 1,000 feet of the outer boundary of a K-12 school. However, as discussed within this document, the proposed wine storage tanks being installed in this project do not result in an increase in Hazardous Air Pollutant (HAP) emissions. Therefore, in accordance with the California Health and Safety Code, Section 42301.6, a school notice is not required.

#### **IV. Process Description**

O'Neill Beverages Co. produces both red and white table wines, as well as other specialty wine products, from the fermentation of grapes. During the "crush season", typically from late August to late November, both red and white grapes are received by truck and delivered to a crusher-stemmer which serves to crush the grapes and remove the stems. In the case of red wines, the resultant juice (termed "must" and containing the grape skins, pulp and seeds) is pumped to red wine fermentation tanks for fermentation, a batch process. The red wine fermentation tanks are specifically designed to ferment the must in contact with the skins and to allow the separation of the skins and seeds from the wine after fermentation. In the case of white wines, the must is first sent to screens and presses for separation of grape skins and seeds prior to fermentation. After separation of the skins and seeds, the white must is transferred to a fermentation tank. White wine fermentation can be carried out in a tank without design provisions for solids separation since the skins and seeds have already been separated.

After transfer of the must (red or white) to the fermentation tank, the must is inoculated with yeast which initiates the fermentation reactions. During fermentation, the yeast metabolizes the sugar in the grape juice, converting it to ethanol and carbon dioxide and releasing heat. Although fermentation temperatures vary widely depending upon the specific quality and style of the wine, temperature is typically controlled to maintain a temperature of 45-70° F for white wine fermentation and 70-85° F for red wine fermentation. The sugar content of the fermentation mass is measured in °Brix (weight %) and is typically 22-26° for unfermented grape juice, dropping to 4° or less for the end of fermentation. Finished ethanol concentration is approximately 10 to 14 percent by volume. Batch fermentation requires 3-5 days per batch for red wine and 1-2 weeks per batch for white wine. VOC's are emitted during the fermentation process along with the CO<sub>2</sub>. The VOC's consist primarily of ethanol along with minor fermentation byproducts.

Following the completion of fermentation, white wine is transferred directly to storage tanks. Red wine is first directed to the presses for separation of solids and then routed to the storage tanks. All tanks in the winery typically operate as two separate emissions units; 1) a fermentation operation during which the tank is vented directly to the atmosphere to release the evolved CO<sub>2</sub> byproduct from the fermentation reaction; and 2) a storage operation where the tank is closed to minimize contact with air and the contents is often refrigerated. Post-fermentation operations are conducted in the tanks including cold stabilization, racking, filtration, etc. which result in a number of inter-tank transfers of the wine during this period leading up to the bottling or bulk shipment of the finished product. Storage operations are conducted year-round. VOC emissions occur primarily as a result of the inter-tank wine transfers which occur during the post fermentation operations.

The proposed new tanks in this project consist solely of wine storage tanks.

#### **V. Equipment Listing**

##### **Existing Tanks:**

The pre and post project, and ATC equipment descriptions are listed in Appendix C.

**New Storage Tanks:**

A complete list of the equipment descriptions are listed in Appendix C.

**C-629-577-0 through -594-0 (Tank IDs R3004 through R3021):**

- 20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK #R30XX) WITH A PRESSURE/VACUUM VALVE AND INSULATION

**C-629-595-0 through -604-0 (Tank IDs R4001 through R4010):**

- 33,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK #R40XX) WITH A PRESSURE/VACUUM VALVE AND INSULATION

**C-629-605-0 through -629-0 (Tank IDs R4101 through R4125):**

- 65,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK #R41XX) WITH A PRESSURE/VACUUM VALVE AND INSULATION

**C-629-630-0 through -641-0 (Tank IDs R4201 through R4212):**

- 105,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK #R42XX) WITH A PRESSURE/VACUUM VALVE AND INSULATION

**C-629-642-0 (Tank ID R0631):**

- 250,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK #R0631) WITH A PRESSURE/VACUUM VALVE AND INSULATION

The following conditions will be added to the tank permits in this project to ensure the equipment descriptions are updated with the appropriate tank “gauge volumes” once the tanks are constructed. The tank dimensions were proposed by the facility.

**C-629-577-0 through -594-0 (Tank IDs R3004 through R3021):**

- The nominal tank dimensions are 11 feet, 9 inches in diameter and 24 feet in height with a proposed volume of 20,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201]

**C-629-595-0 through -604-0 (Tank IDs R4001 through R4010):**

- The nominal tank dimensions are 13 feet, 6 inches in diameter and 30 feet in height with a proposed volume of 33,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201]

C-629-605-0 through -629-0 (Tank IDs R4101 through R4125):

- The nominal tank dimensions are 16 feet, 6 inches in diameter and 40 feet in height with a proposed volume of 65,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201]

C-629-630-0 through -641-0 (Tank IDs R4201 through R4212):

- The nominal tank dimensions are 21 feet in diameter and 40 feet in height with a proposed volume of 105,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201]

C-629-642-0 (Tank ID R0631):

- The nominal tank dimensions are 32 feet, 6 inches in diameter and 40 feet in height with a proposed volume of 20,000 gallons. The permittee shall submit to the District the gauge volume of the tank within 30 days of the actual tank capacity measurement. [District Rule 2201]

## **VI. Emission Control Technology Evaluation**

VOCs (ethanol) are emitted from wine storage tanks as a result of both working losses (which occur when the liquid level in the tank changes) and breathing losses (expansion and contraction effects due to temperature variations). The proposed pressure/vacuum valve limits these emissions by requiring the maximum amount of variation in tank pressure before allowing the tank to vent to the atmosphere or allowing air admission to the tank.

## **VII. General Calculations**

### **A. Assumptions**

Existing Units:

- Storage tank maximum ethanol content of stored wine is 23.9% (per applicant).
- Facility Wide VOC emission limit for fermentation emissions is 410,502 lb-VOC/year (current permits).

- Annual VOC storage emissions SLCs for the existing units being modified in this project are summarized in the table below:

Existing SLC Limit	Units in Existing SLC
5,000 lb-VOC/year	-383 through -431, and -563 through -576
9,333 lb-VOC/year	-436 through -443, -446 through -493, and -559 through -562
8,991 lb-VOC/year	-289 through -320, -325 through -382

- Breathing losses from the storage tanks will be negligible since they are insulated tanks or located inside of temperature controlled buildings (per applicant).
- Pre project red and white wine storage cooperage is 38,632,027 gallons (per project C-1113230).
- Post project red and white wine storage cooperage is 42,457,027 gallons (38,632,027 gallons + 3,825,000 gallons).

Units C-629-577-0 through -642-0:

- The proposed tanks will only be used for red and white wine storage.
- Typically, for enclosed tanks with refrigeration and/or insulation (or equivalent) and P/V valves, breathing losses from storage of wine are assumed to be negligible.
- Storage tank maximum ethanol content of stored wine is 23.9% (per applicant).
- Maximum daily storage throughput is 3 turns per day (per applicant).
- Maximum annual storage throughput is 1,095 turns per year (3 turns/day x 365 days/year) (per applicant).
- Total tank capacity of new red and white wine storage tanks is 3,825,000 gallons (per applicant).
- Pre project red and white wine storage cooperage is 38,632,027 gallons (per project C-1113230)
- Post project red and white wine storage cooperage is 42,457,027 gallons (38,632,027 gallons + 3,825,000 gallons).

## B. Emission Factors

Storage Emission Factors:

Emission factors are taken from District FYI-114, *VOC Emission Factors for Wine Fermentation and Storage Tanks*, for facility located in the Central Region, as follows:

Wine Type	Vol% Ethanol	EF2 (lb-VOC/1,000 gallon of wine)		Source
		Daily	Annual	
White/Red	23.9	0.410*	0.226*	FYI-114, Table 1 (6/13/12)

\* Lineally interpolated from values in FYI-114.

The storage emissions from some of the existing tanks in this project were previously calculated using emissions factors from the 9/14/09 version of FYI 114. FYI 114 has since been revised and the emissions factors updated. Pursuant to District Policy APR 1110, Using Revised Emission Factors, the pre project potential to emit for the existing tanks shall be calculated using the emission factors from the newest version of FYI 114 (6/13/12).

#### Fermentation Emission Factors:

Some of the existing tanks in this project are permitted to allow both red and white wine fermentation. Since the red wine emission factor is higher, it will be used for all emission calculations.

Daily Fermentation EF = 3.46 lb-VOC/1,000 gallon tank capacity per day

### **C. Calculations**

#### **1. Pre-Project Potential to Emit (PE1)**

##### Existing Tanks Storage Emissions:

The daily VOC emissions from the storage of wine in each of the existing tanks can be determined using the emission factors listed above and the permitted daily wine storage throughput limits.

Daily VOC PE<sub>Storage</sub> = EF (lb-VOC/1,000 lb gallons) x Throughput (gallons/day)

The summary of the daily VOC PE1 calculations for each of the existing tanks while being used for wine storage can be found in Appendix D.

##### Existing Tanks Fermentation Emissions:

The daily VOC emissions from the fermentation of wine in each of these tanks can be determined using the emission factor listed above and the daily wine fermentation throughput based on one tank turnover per day. Since the red wine emission factors represent the worst case VOC emissions, they will be used in all of the daily potential emission calculations for the purposes of this project.

Daily VOC PE<sub>Fermentation</sub> (lb/day) = EF (lb-VOC/1,000 lb gallons) x Tank Capacity (gal)

The summary of the daily VOC PE1 calculations for each of the existing tanks while being used for wine fermentation can be found in Appendix D.

New Tank (Units C-629-577-0 through -642-0):

Since the new tanks are new emissions units, PE1 = 0 for all pollutants.

**2. Post Project Potential to Emit (PE2)**

Existing Tanks:

The proposed modification to these permit units consist solely of the addition of the new storage tanks to the various existing storage tank emission annual SLCs. Therefore, the daily and annual post project potential to emit will be the same as the pre project potential to emit.

New Tanks (Units C-629-563-0 through -576-0):

The daily VOC emissions from the new wine storage tanks are determined using the emission factors listed above and the permitted daily wine storage throughput limits.

$$\text{Daily VOC PE}_{\text{Storage}} = \text{EF (lb-VOC/1,000 lb gallons)} \times \text{Throughput (gallons/day)}$$

The summary of the daily VOC PE2 calculations for each of the new wine storage tanks can be found in Appendix D.

**3. Pre-Project Stationary Source Potential to Emit (SSPE1)**

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

The units in this project only have the potential to emit VOC. This facility acknowledges that its VOC emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, SSPE1 calculations are not necessary.

**4. Post Project Stationary Source Potential to Emit (SSPE2)**

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

The units in this project only have the potential to emit VOC. This facility acknowledges that its VOC emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, SSPE2 calculations are not necessary.

## 5. Major Source Determination

### Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

This source is an existing Major Source for VOC emissions and will remain a Major Source for VOC. No change in other pollutants are proposed or expected as a result of this project.

### Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

NO<sub>x</sub>, SO<sub>x</sub>, PM, PM<sub>10</sub>, and CO emissions were taken from Project C-1093053.

The facility wide SLC for wine fermentation operations is 410,502 lb-VOC/year. The VOC emissions from each of the two brandy storage warehouses are 51,435 lb-VOC/year. The VOC emissions from the fermentation SLC and brandy storage warehouses will exceed the PSD Major Source threshold.

PSD Major Source Determination (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Estimated Facility PE before Project Increase	5.1	> 250	0.8	32.0	1.8	1.8
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	N	Y	N	N	N	N

As shown above, the facility is an existing major source for PSD for at least one pollutant. Therefore the facility is an existing major source for PSD.

## 6. Baseline Emissions (BE)

The BE calculation (in lbs/year) is performed pollutant-by-pollutant for each unit within the project to calculate the QNEC, and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201,  $BE = PE1$  for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

$BE = \text{Historic Actual Emissions (HAE)}$ , calculated pursuant to District Rule 2201.

As shown in Section VII.C.5 above, the facility is a Major Source for VOC.

### Existing Tanks:

#### *Clean Emissions Unit, Located at a Major Source*

Pursuant to Rule 2201, a Clean Emissions Unit is defined as an emissions unit that is "equipped with an emissions control technology with a minimum control efficiency of at least 95% or is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

As demonstrated in projects C-1100281, C-1101398, C-1103740, C-1140372, and C-1141976 all permit units for existing tanks in this project currently meet BACT Achieved-in-Practice for VOC emissions. Therefore  $BE = PE1$ .

### New Tanks (Units C-629-577-0 through -642-0):

Since the wine storage tanks in this project are new emissions units,  $BE = PE1 = 0$  for all pollutants.

## 7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the increases in fugitive emissions are not included in the SB 288 Major Modification calculation.

Since this facility is a major source for VOC, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

The VOC emissions from the new tanks are included in three existing SLCs which limits VOC storage emissions to 5,000 lb/year, 9,333 lb/year, and 8,991 lb/year. The PE2 for this project will be 23,324 lb/year which is the total summation of all three SLCs.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
VOC	23,324	50,000	No

Since none of the SB 288 Major Modification Thresholds are surpassed with this project, this project does not constitute an SB 288 Major Modification.

## 8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination. Emission increases calculations are shown in Appendix E and summarized in the table below

Federal Major Modification Thresholds and Determination			
Pollutant	NEI (lb/year)	Thresholds (lb/year)	Federal Major Modification?
VOC	18,442	0	Yes

Since there is an increase in VOC emissions, this project constitutes a Federal Major Modification, and no further analysis is required.

## 9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to pollutants for which the District is in attainment or for unclassified, pollutants. The only pollutant emitted by the units in this project is VOC, which the District is classified as nonattainment for. Since the only pollutant emitted by this operation is a nonattainment pollutant and the facility is an existing PSD source, no further analysis is required.

## VIII. Compliance

### Rule 2201 New and Modified Stationary Source Review Rule

As stated in the Proposal Section of this evaluation, the proposed modifications to the existing tanks in this project are not NSR modification. Only the proposed new wine storage tanks are applicable to the requirements of Rule 2201.

#### A. Best Available Control Technology (BACT)

##### 1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions\*:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

\*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

##### a. New emissions units – PE > 2 lb/day

Units C-629-577-0 through -642-0:

As seen in Section VII.C.2 above, the applicant is proposing to install 14 new wine storage tanks with PEs greater than 2 lb/day for VOC. BACT is triggered for VOC since the PE is greater than 2 lbs/day.

##### b. Relocation of emissions units – PE > 2 lb/day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

##### c. Modification of emissions units – AIPE > 2 lb/day

As discussed in Section I above, the proposed modification to the existing emissions units associated with this project are not NSR modifications. Therefore these units are not subject to BACT in this project.

#### **d. SB 288/Federal Major Modification**

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute an Federal Major Modification for VOC emissions. Therefore BACT is triggered for VOC for all emissions units in the project for which there is an emission increase.

#### **2. BACT Guideline**

BACT Guideline 5.4.13 applies to the wine storage tanks. [Wine Storage Tanks] (Appendix F)

#### **3. Top-Down BACT Analysis**

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (Appendix F), since the technologically feasible options are not cost effective and BACT has been satisfied with the following:

VOC: Insulated tank, pressure/vacuum valve set within 10% of the maximum allowable working pressure of the tank, "gas tight" tank operation and achieve and maintain a continuous storage temperature not exceeding 75 °F within 60 days of completion of fermentation.

The following conditions will be placed on the ATCs to ensure compliance with the requirements of BACT:

- This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rules 2201 and 4694]
- The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition, except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21. [District Rules 2201 and 4694]
- The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694]

## B. Offsets

### 1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

Facility emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, offsets are triggered.

### 2. Quantity of Offsets Required

As discussed above, the facility is an existing Major Source for VOC and the SSPE2 is greater than the offset thresholds; therefore offset calculations will be required for this project. The modifications proposed in this project only affect wine storage emissions, therefore only the wine storage operations will be evaluated in this section.

The quantity of offsets in pounds per year for VOC is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) =  $(\Sigma[PE2 - BE] + ICCE) \times DOR$ , for all new or modified emissions units in the project,

Where,

PE2 = Post Project Potential to Emit, (lb/year)  
BE = Baseline Emissions, (lb/year)  
ICCE = Increase in Cargo Carrier Emissions, (lb/year)  
DOR = Distance Offset Ratio

BE = Pre-project Potential to Emit for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, Located at a Major Source.

otherwise,

BE = Historical Actual Emissions (HAE)

Pursuant to District Policy APR 1420, *NSR Calculations for Units with Specific Limiting Conditions (3/12/07)*, the quantity of ERCs for a project will be determined by comparing the post project PE, which is the SLC, to the pre project BE for the SLC.

Additionally, the policy states that if the SLC is for a pollutant exceeding the Major Source threshold and any single unit under the SLC is not a Highly-Utilized, Fully-Offset, or Clean Emissions Units, then the sum of the actual emissions from all units in SLC will be used to determine the pre project BE.

As previously established in this evaluation, all tanks at this facility meet the District's determination of achieved-in-practice BACT (and are thus Clean Emission Units), therefore the pre project BE emissions are equal to the pre project PE emissions ( $BE_{SLC} = PE1_{SLC}$ ).

Based on the information above, the emissions increase to be offset for this project should be calculated as follows:

$$\text{Emissions Increase (lb/year)} = \Sigma[PE2_{SLC} - BE_{SLC}]$$

Where,

$$\begin{aligned}\Sigma PE2_{SLC} &= \text{The post project potential to emit for this project is equal to the sum of the} \\ &\quad \text{existing SLCs for wine storage emissions covering the units in this project.} \\ &= (5,000 \text{ lb-VOC/year} + 8,991 \text{ lb-VOC/year} + 9,333 \text{ lb-VOC/year}) \\ &= \mathbf{23,324 \text{ lb-VOC/year}}\end{aligned}$$

$$\begin{aligned}\Sigma BE_{SLC} &= \text{The baseline SLC for this project is equal to the sum of the existing SLCs for} \\ &\quad \text{wine storage emissions covering the units in this project.} \\ &= (5,000 \text{ lb-VOC/year} + 8,991 \text{ lb-VOC/year} + 9,333 \text{ lb-VOC/year}) \\ &= \mathbf{23,324 \text{ lb-VOC/year}}\end{aligned}$$

Therefore,

$$\begin{aligned}\text{Emissions Increase (lb/year)} &= \Sigma[PE2_{SLC} - BE_{SLC}] \\ &= [23,324 \text{ lb-VOC/year}] - [23,324 \text{ lb-VOC/year}] \\ &= 0 \text{ lb-VOC/year}\end{aligned}$$

As indicated above, offsets are not required for this project.

## C. Public Notification

### 1. Applicability

Public noticing is required for:

- New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- Any project which results in the offset thresholds being surpassed, and/or
- Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

**a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications**

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

As demonstrated in Sections VII.C.7 and VII.C.8, this project is an SB 288 or Federal Major Modification. Therefore, public noticing for SB 288 or Federal Major Modification purposes is required.

**b. PE > 100 lb/day**

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant, therefore public noticing for PE > 100 lb/day purposes is not required.

**c. Offset Threshold**

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table. VOC is the only pollutant emitted by the units in this project.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
VOC	> 20,000	> 20,000	20,000 lb/year	No

As detailed above, there were no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

**d. SSIPE > 20,000 lb/year**

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table. This project consists of adding new tanks to three existing SLCs. The existing SLCs will not increase due to the additional tanks.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
VOC	23,324*	23,324*	0	20,000 lb/year	No

\* Combined emissions of the three existing VOC storage emissions SLCs (5,000 lb/year + 8,991 lb-VOC/year + 9,333 lb-VOC/year).

As demonstrated above, the SSIPs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIP purposes is not required.

## **2. Public Notice Action**

As discussed above, public noticing is required for this project for Federal Major Modification. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and US Environmental Protection Agency (US EPA) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATCs for this equipment.

## **D. Daily Emission Limits (DELs)**

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

For all wine storage tank emissions units affected by this project, the DEL is stated in the form of a daily limit on tank throughput and a maximum ethanol content for wine stored in the tank. In addition, the facility has proposed to update the DEL conditions on their existing tank permits to match the DEL condition on the new tanks. The DEL conditions for both the new tanks and existing tanks in this project will be addressed below:

### **Proposed Rule 2201 (DEL) Conditions:**

The following conditions will be placed on all wine storage tanks permits in this project:

- Ethanol content of wine stored in this tank shall not exceed 23.9 percent by volume. [District Rule 2201]
- The annual VOC wine storage emission factor for each wine ethanol content shall be calculated using the following equation:  $EF = a * P^2 + b * P + c$ ; where EF is the VOC emission factor in pounds of VOC per 1000 gallons of wine throughput; and P is the volume percent ethanol of the wine being transferred. For concentrations up to and including 24 volume %,  $a = -0.45139$ ,  $b = 1.0542$  and  $c = 0$ . [District Rule 2201]

The following condition will be placed on all spirit storage tanks permits in this project (units -436-3 through -443-3 and -599-1 through -562-1):

- The annual VOC distilled spirits storage emission factor for each distilled spirits ethanol content shall be calculated using the following equation:  $EF = a * P^2 + b * P + c$ ; where EF is the VOC emission factor in pounds of VOC per 1000 gallons of distilled spirits throughput; and P is the volume percent ethanol of the distilled spirits being transferred. For concentrations up to and including 24 volume %,  $a = -0.52083E-4$ ,  $b = 1.1625E-2$  and  $c = 0$ . For concentrations greater than 24 volume % up to and including 66 volume % ,  $a = -0.49990E-4$ ,  $b = 1.0589E-2$  and  $c = 0.02133$ . For concentrations greater than 66 volume % up to and including 92 volume % ,  $a = 1.60589E-4$ ,  $b = -1.83207E-2$  and  $c = 1.016774$ . For concentrations greater than 92 volume % up to and including 100 volume % ,  $a = 9.64286E-4$ ,  $b = -16.1943E-2$  and  $c = 7.43214$ . [District Rule 2201]

The SLC permit condition will change depending on which units the SLC covers. SLC permit conditions are shown below:

Units -383 through -431, -563 through -604, and -642:

- Combined annual VOC emissions from all wine storage operations under permit units C-629-383 through -431, -563 through -604, and -642, calculated on a twelve month rolling basis, shall not exceed 5,000 pounds per year. [District Rule 2201]
- Combined annual VOC emissions from wine storage operations under permit units C-629-383 through C-629-431 and C-629-563 through -604, and -642 shall be determined as the sum of the emissions for each individual wine movement based on the volume transferred in each wine movement and the batch-specific wine storage emission factor calculated using the equation(s) specified within this permit. [District Rule 2201]

Units -436 through -443, -446 through -493, -559 through -562, and -605 through -629:

- Combined annual VOC emissions from all wine storage operations under permit units C-629-436 through -443, -446 through -493, -559 through -562, and -605 through -629, calculated on a twelve month rolling basis, shall not exceed 9,333 pounds per year. [District Rule 2201]
- Combined annual VOC emissions from wine storage operations under permit units C-629-436 through -443, -446 through -493, -559 through -562, and -605 through -629 shall be determined as the sum of the emissions for each individual wine movement based on the volume transferred in each wine movement and the batch-specific wine storage emission factor calculated using the equation(s) specified within this permit. [District Rule 2201]

Units -289 through -320, -325 through -382, and -630 through -641:

- Combined annual VOC emissions from all wine storage operations under permit units C-629-289 through -320, -325 through -382, and -630 through -641, calculated on a twelve month rolling basis, shall not exceed 8,991 pounds per year. [District Rule 2201]
- Combined annual VOC emissions from wine storage operations under permit units C-629-289 through -320, -325 through -382, and -630 through -641 shall be determined as the sum of the emissions for each individual wine movement based on the volume transferred in each wine movement and the batch-specific wine storage emission factor calculated using the equation(s) specified within this permit. [District Rule 2201]

The daily wine throughput for the tanks in this project will vary based on the size of the tanks. The daily throughput limit of each tank is listed in the emissions calculation table in Appendix D. A sample permit condition is listed below:

Sample Condition:

- The maximum wine storage throughput in this tank shall not exceed XXX,XXX gallons per day. [District Rule 2201]

The following DEL conditions for fermentation emissions will be included on all tanks permitted for wine storage and wine fermentation:

- Annual emissions from all wine fermentation operations at this facility, calculated on a twelve month rolling basis, shall not exceed the following limit: VOC - 410,502 lb/year. [District Rule 2201]
- Total annual VOC emissions from wine fermentation operations shall be determined by the following formula: Total annual VOC emissions = (Total Annual Red Wine Production-gal) x (6.2 lb-VOC/1000 gal) + (Total Annual White Wine Production-gal) x (2.5 lb-VOC/1000 gal). [District Rule 2201]

**E. Compliance Assurance**

**1. Source Testing**

Pursuant to District Policy APR 1705, source testing is not required to demonstrate compliance with Rule 2201.

**2. Monitoring**

No monitoring is required to demonstrate compliance with Rule 2201.

### 3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following conditions are will be listed on all permits in this project:

#### All Tanks:

- Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]
- If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201]
- All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070, 2201 and 4694]

#### Storage Only Tanks:

- Daily throughput records, including records of filling and emptying operations, the dates of such operations, a unique identifier for each batch, the volume percent ethanol in the batch, and the volume of wine transferred, shall be maintained. [District Rules 1070 and 2201]

#### Existing Storage and Fermentation Tanks:

- When this tank is used for wine storage, daily throughput records, including records of filling and emptying operations, the dates of such operations, a unique identifier for each batch, the volume percent ethanol in the batch, and the volume of wine transferred, shall be maintained. [District Rules 1070 and 2201]

The facility will be required to maintain records of the combined annual emissions from the tanks in the SLC for each of the three SLCs. The recordkeeping conditions for the tanks in each of the SLCs are shown below:

#### Units -383 through -431, -563 through -604, and -642:

- Records of the combined annual storage emissions from units C-629-383 through -431, -563 through -604, and -642, calculated on a twelve month rolling basis, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201]

Units -436 through -443, -446 through -493, -559 through -562, and -605 through -629:

- Records of the combined annual storage emissions from units C-629-436 through -443, -446 through -493, -559 through -562, and -605 through -629 calculated on a twelve month rolling basis, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201]

Units -289 through -320, -325 through -382, and -630 through -641:

- Records of the combined annual storage emissions from units C-629-289 through -320, -325 through -382, and -630 through -641 calculated on a twelve month rolling basis, including calculation methods and parameters used, shall be maintained. [District Rules 1070 and 2201]

#### **4. Reporting**

No reporting is required to demonstrate compliance with Rule 2201.

#### **5. Annual SLC Requirements**

Based on EPA and District practice, compliance with annual SLCs must be demonstrated on a rolling twelve month basis. The twelve month rolling requirements for winery operations include a provision which allows an exceedance in the rolling twelve month average if the start of the facility's crush season occurs less than 365 days after the previous crush season. The following condition will be added to all permits in this project:

- If the emissions calculated for any rolling 12-month period exceed the annual emissions limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the annual emissions limit for that rolling 12-month period will be deemed to have occurred so long as the calendar year emissions are below the annual emissions limitation. [District Rule 2201]

The following recordkeeping conditions will be added to the permits to ensure compliance with the twelve month rolling period requirements:

- Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]

Existing Storage and Fermentation Tanks:

- The permittee shall maintain the following records: red wine and white wine produced by fermentation at this facility, based on values reported to the Alcohol and Tobacco Tax and Trade Bureau (TTB), U.S. Department of the Treasury; the volume and the ethanol concentration of each wine movement; and the calculated 12 month rolling VOC emission rate (lb-VOC per 12 month rolling period, calculated monthly). [District Rule 2201]

## **F. Ambient Air Quality Analysis (AAQA)**

Section 4.14.1 of this Rule requires that an ambient air quality analysis (AAQA) be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. However, since this project involves only VOC and no ambient air quality standard exists for VOC, an AAQA is not required for this project.

## **G. Compliance Certification**

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Title I Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Section VIII above, this facility constitutes a Title I modification, therefore this requirement is applicable. O'Neill Beverages' compliance certification is included in Appendix G.

## **H. Alternate Siting Analysis**

Alternative siting analysis is required for any project, which constitutes a New Major Source or a Federal Major Modification. As discussed in this evaluation, this project constitutes a Federal Major Modification.

In addition to winery tanks, the operation of a winery requires a large number support equipment, services and structures such as raw material receiving stations, crushers, piping, filtering and refrigeration units, warehouses, laboratories, bottling and shipping facilities, and administration buildings.

Since the project will provide wine storage tanks to be used at the same location, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures on a much greater scale, and would therefore result in a much greater impact.

## **Rule 2520 Federally Mandated Operating Permits**

This facility is subject to this Rule, and has received their Title V Operating Permit. A significant permit modification is defined as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

Section 3.20.5 states that a minor permit modification is a permit modification that does not meet the definition of modification as given in Section 111 or Section 112 of the Federal Clean Air Act. Since this project is a Title I modification (i.e. Federal Major Modification), the proposed project is considered to be a modification under the Federal Clean Air Act. As a result, the proposed project constitutes a Significant Modification to the Title V Permit pursuant to Section 3.29.

As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility shall not implement the changes requested until the final permit is issued. The following permit conditions will be added to the permits to ensure compliance with this rule:

- {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201]
- {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

#### **Rule 4001 New Source Performance Standards (NSPS)**

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. However, no subparts of 40 CFR Part 60 apply to wine storage tanks.

#### **Rule 4002 National Emission Standards for Hazardous Air Pollutants (NESHAPs)**

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to wine storage tanks.

#### **Rule 4101 Visible Emissions**

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). Based on past inspections of similar emissions units, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. The following condition will be added to the permits to ensure compliance with this rule:

- {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

## **Rule 4102 Nuisance**

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected. The following condition will be added to the permits to ensure compliance with this rule.

- {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

## **California Health & Safety Code 41700 (Health Risk Assessment)**

District Policy APR 1905 – Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

Ethanol is not a HAP as defined by Section 44321 of the California Health and Safety Code. Therefore, there are no increases in HAP emissions associated with any emission units in this project, therefore a health risk assessment is not necessary and no further risk analysis is required.

## **District Rule 4623 Storage of Organic Liquids**

The purpose of this rule is to limit volatile organic compound (VOC) emissions from the storage of organic liquids. This rule applies to any tank with a capacity of 1,100 gallons or greater in which any organic liquid is placed, held, or stored.

However, Section 4.1.4 provides an exemption for tanks used to store fermentation products, byproducts or spirits. The tanks in this project are storage tanks used to store wine.

Therefore, the requirements of this rule are not applicable to this project.

## **District Rule 4694 Wine Fermentation and Storage Tanks**

The purpose of this rule is to reduce emissions of volatile organic compounds (VOC) from the fermentation and bulk storage of wine, or achieve equivalent reductions from alternative emission sources. This rule is applicable to all facilities with fermentation emissions in excess of 10 tons-VOC/year. The storage tank provisions of this rule apply to all tanks with capacity in excess of 5,000 gallons.

Section 5.1 requires that the winery operator achieve Required Annual Emissions Reductions (RAER) equal to at least 35% of the winery's Baseline Fermentation Emissions (BFE). Per the definition of RAER in Section 3.25 of the Rule, the RAER may be achieved by any combination of Fermentation Emission Reductions (FER), Certified Emission Reductions (CER) or District

Obtained Emission Reductions (DOER) as established in the facility's District-approved Rule 4694 Compliance Plan, due every three years on December 1<sup>st</sup> beginning in 2006. The facility has submitted the required plan to the District and is currently satisfying the required emission reductions in the form of Certified Emission Reductions.

Section 5.2 places specific restrictions on wine storage tanks with 5,000 gallons or more in capacity when such tanks are not constructed of wood or concrete. Section 5.2.1 requires these tanks to be equipped and operated with a pressure-vacuum relief valve meeting all of the following requirements:

- The pressure-vacuum relief valve shall operate within 10% of the maximum allowable working pressure of the tank,
- The pressure-vacuum relief valve shall operate in accordance with the manufacturer's instructions, and
- The pressure-vacuum relief valve shall be permanently labeled with the operating pressure settings.
- The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21.

The following conditions will be placed on the permits to ensure compliance with the requirements of Section 5.2.1:

Existing Storage and Fermentation Tanks:

- When used for wine storage, this tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rules 2201 and 4694]
- When this tank is used for wine storage, the pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition, except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21. [District Rules 2201 and 4694]

Storage Only Tanks:

- This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rules 2201 and 4694]

- The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition, except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21. [District Rules 2201 and 4694]

Section 5.2.2 requires that the temperature of the stored wine be maintained at or below 75° F. The following condition will be placed on the permits to ensure compliance with the requirements of Section 5.2.2:

- The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694]

Every three years, Section 6.1 and 6.2 require the facility to submit a Three-Year Compliance Plan and a Three-Year Compliance Plan Verification respectively. Section 6.3 requires that an Annual Compliance Plan Demonstration be submitted to the District no later than February 1 of each year to show compliance with the applicable requirements of the Rule. The following condition on the facility-wide permit ('-0-1) ensures compliance with these sections.

- A Three-Year Compliance Plan that demonstrates compliance with the requirements of Section 5.1 of District Rule 4694 for each year of the applicable compliance period shall be submitted to the District by no later than December 1, 2006, and every three years thereafter on or before December 1. [District Rule 4694]
- A Three-Year Compliance Plan Verification that demonstrates that the Three-Year Compliance Plan elements are in effect shall be submitted to the District by no later than July 1, 2007, and every three years thereafter on or before July 1. [District Rule 4694]
- An Annual Compliance Plan Demonstration that shows compliance with the applicable requirements of this rule shall be submitted to the District by no later than February 1, 2008, and every year thereafter on or before February 1. [District Rule 4694]

Section 6.4 requires that records required by this rule be maintained, retained on-site for a minimum of five years, and made available to the APCO upon request. The following condition will be placed on all permits to ensure compliance:

- All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070, 2201 and 4694]

Section 6.4.1 requires that records be kept for each fermentation batch. The following condition will be placed on the existing ATCs for each fermentation tank to ensure compliance:

Existing Storage and Fermentation Tanks:

- For each batch of must fermented in this tank, the operator shall record the fermentation completion date, the total gallons of must fermented, the average fermentation temperature and the uncontrolled fermentation emissions and fermentation emission reductions (calculated per the emission factors given in District Rule 4694). The information shall be recorded by the tank Permit to Operate number and by wine type, stated as either red wine or white wine. [District Rules 2201 and 4694]

Section 6.4.2 requires that weekly records be kept of wine volume and temperature in each storage tank. The following conditions will be placed on the permits to ensure compliance with the requirements of Section 6.4.2:

Existing Storage and Fermentation Tanks:

- When this tank is used for wine storage, daily throughput records, including records of filling and emptying operations, the dates of such operations, a unique identifier for each batch, the volume percent ethanol in the batch, and the volume of wine transferred, shall be maintained. [District Rule 4694]
- When this tank is used for wine storage, the operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694]

Storage Only Tanks:

- The operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694]

Section 6.4.3 requires that all monitoring be performed for any Certified Emission Reductions as identified in the facility's Three-Year Compliance Plan and that the records of all monitoring be maintained. The following condition on the facility-wide permit ('-0-1) ensures compliance:

Existing Storage and Fermentation Tanks:

- Operators using CER to mitigate fermentation emissions shall perform all monitoring and recordkeeping, as established in their approved Three-Year Compliance Plan, and shall maintain all records necessary to demonstrate compliance. [District Rule 4694]

**Conclusion**

The wine tanks in this project meet all requirements of this Rule.

### **California Health & Safety Code 42301.6 (School Notice)**

The District has verified that the equipment is located within 1,000 feet of the outer boundary of a K-12 school. However, as discussed within this document, the proposed wine storage tanks being installed in this project do not result in an increase in Hazardous Air Pollutant (HAP) emissions. Therefore, in accordance with the California Health and Safety Code, Section 42301.6, a school notice is not required.

### **California Environmental Quality ACT (CEQA)**

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

### **Greenhouse Gas (GHG) Significance Determination**

#### District is a Responsible Agency

It is determined that another agency has prepared an environmental review document for the project. The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381). As a Responsible Agency, the District is limited to mitigating or avoiding impacts for which it has statutory authority. The District does not have statutory authority for regulating greenhouse gas emissions. The District has determined that the applicant is responsible for implementing greenhouse gas mitigation measures, if any, imposed by the Lead Agency.

### **District CEQA Findings**

The County of Fresno (County) is the public agency having principal responsibility for approving the project. As such, the County served as the Lead Agency (CCR §15367). In approving the project, the Lead Agency prepared and adopted a Mitigated Negative

Declaration. The Lead agency filed a Notice of Determination, stating that the environmental document was adopted pursuant to the provisions of CEQA and concluding that the project would not have a significant effect on the environment.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CCR §15381). As a Responsible Agency the District complies with CEQA by considering the environmental document prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project (CCR §15096).

The District has considered the Lead Agency's environmental document and finds that it adequately characterizes the project's potential impact on air quality. In addition, all feasible and cost-effective control measures to reduce potential impacts on air quality resulting from project related stationary source emissions have been applied to the project as part of BACT. Furthermore, the District has conducted an engineering evaluation of the project, this document, which demonstrates that Stationary Source emissions from the project would be reduced. Thus, the District finds that through a combination of project design elements, compliance with applicable District rules and regulations, and compliance with District air permit conditions, project specific stationary source emissions would be reduced to lessen the impacts on air quality. The District does not have authority over any of the other project impacts and has, therefore, determined that no additional findings are required (CEQA Guidelines §15096(h)).

## **IX. Recommendation**

Compliance with all applicable rules and regulations is expected. Pending a successful NSR and COC Public Noticing period, issue ATC permits subject to the permit conditions on the attached draft ATCs in Appendix A.

## **X. Billing Information**

Billing information is attached in Appendix H.

## **Appendixes**

- A: Draft ATCs
- B: Current PTOs and Unconverted ATCs
- C: Equipment Descriptions
- D: Daily Potential Emission Calculations
- E: Emission Increases Calculations
- F: BACT Guideline and Top-Down Analysis
- G: Compliance Certification
- H: Billing Information

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## **APPENDIX C**

### **Equipment Descriptions**

### ATC Equipment Descriptions

Permit Unit			ATC Equipment Description
C	629	289	TANK (TANK 306) WITH PRESSURE VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 8 IN STORAGE EMISSIONS SLC
C	629	290	TANK (TANK 307) WITH PRESSURE VACUUM VALVE: INCLUDE UNITS -630 THROUGH -641 IN STORAGE 8 EMISSIONS SLC
C	629	291	TANK (TANK 308) WITH PRESSURE VACUUM VALVE: INCLUDE UNITS -630 THROUGH -641 IN STORAGE 8 EMISSIONS SLC
C	629	292	TANK (TANK 309) WITH PRESSURE VACUUM VALVE: INCLUDE UNITS -630 THROUGH -641 IN STORAGE 8 EMISSIONS SLC
C	629	293	TANK (TANK 310) WITH PRESSURE VACUUM VALVE: INCLUDE UNITS -630 THROUGH -641 IN STORAGE 8 EMISSIONS SLC
C	629	294	TANK (TANK 311) WITH PRESSURE VACUUM VALVE: INCLUDE UNITS -630 THROUGH -641 IN STORAGE 8 EMISSIONS SLC
C	629	295	TANK (TANK 312) WITH PRESSURE VACUUM VALVE: INCLUDE UNITS -630 THROUGH -641 IN STORAGE 8 EMISSIONS SLC
C	629	296	TANK (TANK 313) WITH PRESSURE VACUUM VALVE: INCLUDE UNITS -630 THROUGH -641 IN STORAGE 8 EMISSIONS SLC
C	629	297	TANK (TANK 314) WITH PRESSURE VACUUM VALVE: INCLUDE UNITS -630 THROUGH -641 IN STORAGE 8 EMISSIONS SLC
C	629	298	TANK (TANK 315) WITH PRESSURE VACUUM VALVE: INCLUDE UNITS -630 THROUGH -641 IN STORAGE 8 EMISSIONS SLC
C	629	299	TANK (TANK 316) WITH PRESSURE VACUUM VALVE: INCLUDE UNITS -630 THROUGH -641 IN STORAGE 8 EMISSIONS SLC
C	629	300	TANK (TANK 317) WITH PRESSURE VACUUM VALVE: INCLUDE UNITS -630 THROUGH -641 IN STORAGE 8 EMISSIONS SLC
C	629	301	TANK (TANK 318) WITH PRESSURE VACUUM VALVE: INCLUDE UNITS -630 THROUGH -641 IN STORAGE 8 EMISSIONS SLC
C	629	302	TANK (TANK 319) WITH PRESSURE VACUUM VALVE: INCLUDE UNITS -630 THROUGH -641 IN STORAGE 8 EMISSIONS SLC
C	629	303	TANK (TANK # R-2017) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH - 7 641 IN STORAGE EMISSIONS SLC
C	629	304	TANK (TANK # R-2018) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH - 7 641 IN STORAGE EMISSIONS SLC
C	629	305	TANK (TANK # R-2019) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH - 7 641 IN STORAGE EMISSIONS SLC
C	629	306	TANK (TANK # R-2020) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH - 7 641 IN STORAGE EMISSIONS SLC
C	629	307	(TANK # R-2001) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN 7 STORAGE EMISSIONS SLC
C	629	308	(TANK # R-2002) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN 7 STORAGE EMISSIONS SLC
C	629	309	(TANK # R-2003) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN 7 STORAGE EMISSIONS SLC
C	629	310	(TANK # R-2004) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN 7 STORAGE EMISSIONS SLC
C	629	311	(TANK # R-2005) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN 7 STORAGE EMISSIONS SLC
C	629	312	(TANK # R-2012) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN 7 STORAGE EMISSIONS SLC
C	629	313	(TANK # R-2013) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN 7 STORAGE EMISSIONS SLC

C	629	314	7 (TANK # R-2014) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	315	7 (TANK R-2015) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	316	7 (TANK R-2016) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	317	7 TANK (TANK R-2023) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	318	7 TANK (TANK R-2024) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	319	7 TANK (TANK R-2025) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	320	7 TANK (TANK R-2026) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	325	5 (TANK #R2027) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	326	5 (TANK # R2028) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	327	5 (TANK #R2029) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	328	5 (TANK #R2030) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	329	5 (TANK #R2031) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	330	5 (TANK #R2032) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	331	5 (TANK #R2033) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	332	5 (TANK #R2034) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	333	6 (TANK #R0290) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	334	6 (TANK #R0291) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	335	6 (TANK #R0292) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	336	6 (TANK #R0293) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	337	6 (TANK #R0294) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	338	6 (TANK #R0295) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	339	6 (TANK #R0622) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	340	6 (TANK #R0623) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	341	6 TANK (TANK #R0624) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	342	6 (TANK #R0625) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	343	6 (TANK#R2035) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC
C	629	344	6 (TANK#R2036) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -630 THROUGH -641 IN STORAGE EMISSIONS SLC

[illegible]

[illegible]

[illegible]

				MODIFICATION OF 13,300 GALLON STEEL RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK #R3059) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING:
C	629	421	4	INCLUDE UNITS -577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC AND REVISE TANK NUMBER
				(TANK #R3060) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING:
C	629	422	4	INCLUDE UNITS -577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
				(TANK #R3061) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING:
C	629	423	4	INCLUDE UNITS -577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
				(TANK #R3062) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING:
C	629	424	3	INCLUDE UNITS -577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
				(TANK #R3063) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING:
C	629	425	3	INCLUDE UNITS -577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
				(TANK #R3064) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING:
C	629	426	3	INCLUDE UNITS -577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
				(TANK #R3065) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING:
C	629	427	3	INCLUDE UNITS -577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
				(TANK #R3066) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING:
C	629	428	3	INCLUDE UNITS -577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
				(TANK #R3067) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING:
C	629	429	3	INCLUDE UNITS -577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
				(TANK #R3002) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -577 THROUGH -604
C	629	430	7	AND -642 IN STORAGE EMISSIONS SLC
				(TANK #R3003) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -577 THROUGH -604
C	629	431	7	AND -642 IN STORAGE EMISSIONS SLC
				PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING: INCLUDE UNITS -605
C	629	436	3	THROUGH -629 IN STORAGE EMISSIONS SLC
				PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING: INCLUDE UNITS -605
C	629	437	3	THROUGH -629 IN STORAGE EMISSIONS SLC
				PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING: INCLUDE UNITS -605
C	629	438	3	THROUGH -629 IN STORAGE EMISSIONS SLC
				PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING: INCLUDE UNITS -605
C	629	439	3	THROUGH -629 IN STORAGE EMISSIONS SLC
				PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING: INCLUDE UNITS -605
C	629	440	3	THROUGH -629 IN STORAGE EMISSIONS SLC
				PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING: INCLUDE UNITS -605
C	629	441	3	THROUGH -629 IN STORAGE EMISSIONS SLC
				PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING: INCLUDE UNITS -605
C	629	442	3	THROUGH -629 IN STORAGE EMISSIONS SLC
				PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING: INCLUDE UNITS -605
C	629	443	3	THROUGH -629 IN STORAGE EMISSIONS SLC
				# R0069) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN
C	629	446	2	STORAGE EMISSIONS SLC
				# R2072) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN
C	629	447	2	STORAGE EMISSIONS SLC
				# R2073) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN
C	629	448	2	STORAGE EMISSIONS SLC
				# R2074) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN
C	629	449	2	STORAGE EMISSIONS SLC
				# R2075) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN
C	629	450	2	STORAGE EMISSIONS SLC
				# R2076) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN
C	629	451	2	STORAGE EMISSIONS SLC
				# R2077) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN
C	629	452	2	STORAGE EMISSIONS SLC

C	629	453	2	# R2078) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	454	2	# R2079) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	455	2	# R2080) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	456	2	# R2081) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	457	2	# R2082) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	458	2	# R2083) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	459	2	# R2084) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	460	2	# R0233) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	461	2	# R0234) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	462	2	# R0235) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	463	2	# R0236) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	464	2	# R0237) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	465	2	# R0238) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	466	1	# R0239) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	467	1	# R0240) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	468	1	MODIFICATION OF 33,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R0700) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC AND REVISE TANK NUMBER
C	629	469	1	MODIFICATION OF 33,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R0701) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC AND REVISE TANK NUMBER
C	629	470	1	MODIFICATION OF 33,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R0702) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC AND REVISE TANK NUMBER
C	629	471	1	MODIFICATION OF 33,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R0703) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC AND REVISE TANK NUMBER
C	629	472	1	# R0704) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	473	1	# R0705) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	474	1	# R0706) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	475	1	# R0707) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	476	1	# R0708) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	477	1	# R0709) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC

C	629	478	1	# R0710) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	479	1	# R0711) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	480	1	# R0712) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	481	1	# R0713) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	482	1	# R0714) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	483	1	# R0715) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	484	1	MODIFICATION OF 6,750 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R1100) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC AND REVISE TANK NUMBER
C	629	485	1	MODIFICATION OF 6,750 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R1101) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC AND REVISE TANK NUMBER
C	629	486	1	MODIFICATION OF 6,750 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R1102) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC AND REVISE TANK NUMBER
C	629	487	1	MODIFICATION OF 6,750 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R1103) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC AND REVISE TANK NUMBER
C	629	488	1	MODIFICATION OF 6,750 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R1104) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC AND REVISE TANK NUMBER
C	629	489	1	MODIFICATION OF 6,750 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R1105) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC AND REVISE TANK NUMBER
C	629	490	2	# R1106) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	491	2	# R1107) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	492	2	# R1108) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	493	2	# R1109) WITH PRESSURE/VACUUM VALVE AND INSULATION: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	559	1	PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	560	1	PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	561	1	PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	562	1	PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING: INCLUDE UNITS -605 THROUGH -629 IN STORAGE EMISSIONS SLC
C	629	563	1	# R3072) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS -577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
C	629	564	1	# R3073) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS -577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
C	629	565	1	# R3074) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS -577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
C	629	566	1	# R3075) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS -577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC

C	629	567	1	# R3076) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS - 577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
C	629	568	1	# R30727 WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS - 577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
C	629	569	1	# R3078) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS - 577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
C	629	570	1	# R3079) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS - 577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
C	629	571	1	# R3080) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS - 577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
C	629	572	1	# R3081) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS - 577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
C	629	573	1	R3054) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS - 577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
C	629	574	1	R3055) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS - 577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
C	629	575	1	R3056) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS - 577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
C	629	576	1	MODIFICATION OF 6,520 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3057) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING: INCLUDE UNITS - 577 THROUGH -604 AND -642 IN STORAGE EMISSIONS SLC
C	629	577	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3004) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	578	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3005) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	579	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3006) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	580	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3007) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	581	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3008) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	582	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3009) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	583	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3010) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	584	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3011) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	585	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3012) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	586	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3013) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	587	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3014) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	588	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3015) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	589	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3016) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	590	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3017) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	591	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3018) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	592	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3019) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	593	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3020) WITH PRESSURE/VACUUM VALVE AND INSULATION

[illegible]

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### PTO Equipment Descriptions

Permit Unit			PTO Equipment Description
C	629	289	8 195,216 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK 306) WITH PRESSURE VACUUM VALVE AND INSULATION
C	629	290	8 198,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK 307) WITH PRESSURE VACUUM VALVE
C	629	291	8 198,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK 308) WITH PRESSURE VACUUM VALVE
C	629	292	8 198,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK 309) WITH PRESSURE VACUUM VALVE
C	629	293	8 198,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK 310) WITH PRESSURE VACUUM VALVE
C	629	294	8 198,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK 311) WITH PRESSURE VACUUM VALVE
C	629	295	8 198,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK 312) WITH PRESSURE VACUUM VALVE
C	629	296	8 198,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK 313) WITH PRESSURE VACUUM VALVE
C	629	297	8 198,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK 314) WITH PRESSURE VACUUM VALVE
C	629	298	8 198,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK 315) WITH PRESSURE VACUUM VALVE
C	629	299	8 198,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK 316) WITH PRESSURE VACUUM VALVE
C	629	300	8 198,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK 317) WITH PRESSURE VACUUM VALVE
C	629	301	8 198,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK 318) WITH PRESSURE VACUUM VALVE
C	629	302	8 198,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK 319) WITH PRESSURE VACUUM VALVE
C	629	303	7 121,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK # R-2017) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	304	7 121,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK # R-2018) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	305	7 121,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK # R-2019) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	306	7 121,000 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK # R-2020) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	307	7 45,500 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK # R-2001) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	308	7 45,500 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK # R-2002) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	309	7 45,500 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK # R-2003) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	310	7 45,500 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK # R-2004) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	311	7 45,500 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK # R-2005) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	312	7 45,500 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK # R-2012) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	313	7 45,500 GALLON STAINLESS STEEL RED AND WHITE WINE FERMENTATION/STORAGE TANK (TANK # R-2013) WITH PRESSURE/VACUUM VALVE AND INSULATION

[illegible]

[illegible]

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C	629	426	3	13,300 GALLON STEEL RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK #R3064) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING
C	629	427	3	13,300 GALLON STEEL RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK #R3065) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING
C	629	428	3	13,300 GALLON STEEL RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK #R3066) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING
C	629	429	3	13,300 GALLON STEEL RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK #R3067) WITH PRESSURE/VACUUM VALVE AND INSTALLED IN A CLIMATE CONTROLLED BUILDING
C	629	430	7	14,400 GALLON STEEL RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK #R3002) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	431	7	14,400 GALLON STEEL RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK #R3003) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	436	3	44,800 GALLON DISTILLED SPIRITS STORAGE TANK (TANK # R0013) WITH PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING
C	629	437	3	44,800 GALLON DISTILLED SPIRITS STORAGE TANK (TANK # R0014) WITH PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING
C	629	438	3	44,800 GALLON DISTILLED SPIRITS STORAGE TANK (TANK # R0015) WITH PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING
C	629	439	3	44,800 GALLON DISTILLED SPIRITS STORAGE TANK (TANK # R0016) WITH PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING
C	629	440	3	37,500 GALLON DISTILLED SPIRITS STORAGE TANK (TANK # R0023) WITH PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING
C	629	441	3	37,500 GALLON DISTILLED SPIRITS STORAGE TANK (TANK # R0024) WITH PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING
C	629	442	3	37,500 GALLON DISTILLED SPIRITS STORAGE TANK (TANK # R0025) WITH PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING
C	629	443	3	37,500 GALLON DISTILLED SPIRITS STORAGE TANK (TANK # R0026) WITH PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING
C	629	446	2	87,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R0069) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	447	2	87,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R2072) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	448	2	87,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R2073) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	449	2	87,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R2074) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	450	2	87,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R2075) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	451	2	87,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R2076) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	452	2	87,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R2077) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	453	2	87,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R2078) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	454	2	87,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R2079) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	455	2	87,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R2080) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	456	2	87,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R2081) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	457	2	87,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R2082) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	458	2	87,000 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R2083) WITH PRESSURE/VACUUM VALVE AND INSULATION

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C	629	486	1	6,750 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R3056) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	487	1	6,750 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R3057) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	488	1	6,750 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R3058) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	489	1	6,750 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R3059) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	490	2	6,750 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R1106) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	491	2	6,750 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R1107) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	492	2	6,750 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R1108) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	493	2	6,750 GALLON RED AND WHITE WINE FERMENTATION AND WINE STORAGE TANK (TANK # R1109) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	559	1	15,900 GALLON DISTILLED SPIRITS STORAGE TANK (TANK # R0009) WITH PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING
C	629	560	1	15,900 GALLON DISTILLED SPIRITS STORAGE TANK (TANK # R0010) WITH PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING
C	629	561	1	15,900 GALLON DISTILLED SPIRITS STORAGE TANK (TANK # R0011) WITH PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING
C	629	562	1	15,900 GALLON DISTILLED SPIRITS STORAGE TANK (TANK # R0012) WITH PRESSURE/VACUUM VALVE, LOCATED IN A COMPLETELY ENCLOSED BUILDING
C	629	563	1	13,300 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3072) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING
C	629	564	1	13,300 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3073) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING
C	629	565	1	13,300 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3074) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING
C	629	566	1	13,300 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3075) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING
C	629	567	1	13,300 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3076) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING
C	629	568	1	13,300 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R30727 WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING
C	629	569	1	13,300 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3078) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING
C	629	570	1	13,300 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3079) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING
C	629	571	1	13,300 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3080) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING
C	629	572	1	13,300 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3081) WITH PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING
C	629	573	1	PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING
C	629	574	1	PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING
C	629	575	1	PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING
C	629	576	1	PRESSURE/VACUUM VALVE LOCATED IN A CLIMATE CONTROLLED BUILDING
C	629	577	0	PRESSURE/VACUUM VALVE AND INSULATION
C	629	578	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3005) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	579	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3006) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	580	0	20,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R3007) WITH PRESSURE/VACUUM VALVE AND INSULATION

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C	629	635	0	105,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R4206) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	636	0	105,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R4207) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	637	0	105,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R4208) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	638	0	105,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R4209) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	639	0	105,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R4210) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	640	0	105,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R4211) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	641	0	105,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R4212) WITH PRESSURE/VACUUM VALVE AND INSULATION
C	629	642	0	250,000 GALLON NOMINAL STAINLESS STEEL RED AND WHITE WINE STORAGE TANK (TANK # R0631) WITH PRESSURE/VACUUM VALVE AND INSULATION

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## **APPENDIX D**

### **Daily Potential to Emit Calculations**

## Daily Potential to Emit of New Tanks

### Storage Emissions

Daily VOC EF (23.9%)	0.41 lb-VOC/1000 gal
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				Storage Emissions		
Permit Unit				Tank Capacity	Max Daily Throughput	Daily PE
C	629	577	0	20,000	60,000	24.6
C	629	578	0	20,000	60,000	24.6
C	629	579	0	20,000	60,000	24.6
C	629	580	0	20,000	60,000	24.6
C	629	581	0	20,000	60,000	24.6
C	629	582	0	20,000	60,000	24.6
C	629	583	0	20,000	60,000	24.6
C	629	584	0	20,000	60,000	24.6
C	629	585	0	20,000	60,000	24.6
C	629	586	0	20,000	60,000	24.6
C	629	587	0	20,000	60,000	24.6
C	629	588	0	20,000	60,000	24.6
C	629	589	0	20,000	60,000	24.6
C	629	590	0	20,000	60,000	24.6
C	629	591	0	20,000	60,000	24.6
C	629	592	0	20,000	60,000	24.6
C	629	593	0	20,000	60,000	24.6
C	629	594	0	20,000	60,000	24.6
C	629	595	0	33,000	99,000	40.6
C	629	596	0	33,000	99,000	40.6
C	629	597	0	33,000	99,000	40.6
C	629	598	0	33,000	99,000	40.6
C	629	599	0	33,000	99,000	40.6
C	629	600	0	33,000	99,000	40.6
C	629	601	0	33,000	99,000	40.6
C	629	602	0	33,000	99,000	40.6
C	629	603	0	33,000	99,000	40.6
C	629	604	0	33,000	99,000	40.6
C	629	605	0	65,000	195,000	80.0
C	629	606	0	65,000	195,000	80.0
C	629	607	0	65,000	195,000	80.0
C	629	608	0	65,000	195,000	80.0
C	629	609	0	65,000	195,000	80.0
C	629	610	0	65,000	195,000	80.0
C	629	611	0	65,000	195,000	80.0
C	629	612	0	65,000	195,000	80.0
C	629	613	0	65,000	195,000	80.0

C	629	614	0	65,000	195,000	80.0
C	629	615	0	65,000	195,000	80.0
C	629	616	0	65,000	195,000	80.0
C	629	617	0	65,000	195,000	80.0
C	629	618	0	65,000	195,000	80.0
C	629	619	0	65,000	195,000	80.0
C	629	620	0	65,000	195,000	80.0
C	629	621	0	65,000	195,000	80.0
C	629	622	0	65,000	195,000	80.0
C	629	623	0	65,000	195,000	80.0
C	629	624	0	65,000	195,000	80.0
C	629	625	0	65,000	195,000	80.0
C	629	626	0	65,000	195,000	80.0
C	629	627	0	65,000	195,000	80.0
C	629	628	0	65,000	195,000	80.0
C	629	629	0	65,000	195,000	80.0
C	629	630	0	105,000	315,000	129.2
C	629	631	0	105,000	315,000	129.2
C	629	632	0	105,000	315,000	129.2
C	629	633	0	105,000	315,000	129.2
C	629	634	0	105,000	315,000	129.2
C	629	635	0	105,000	315,000	129.2
C	629	636	0	105,000	315,000	129.2
C	629	637	0	105,000	315,000	129.2
C	629	638	0	105,000	315,000	129.2
C	629	639	0	105,000	315,000	129.2
C	629	640	0	105,000	315,000	129.2
C	629	641	0	105,000	315,000	129.2
C	629	642	0	250,000	750,000	307.5

## Daily Potential to Emit of Existing Tanks

### Storage Emissions

Daily VOC EF (23.9%)	0.41 lb-VOC/1000 gal
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### Fermentation Emissions

VOC EF (red)	3.46 lb-VOC/1000 gal
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					Storage Emissions		Fermentation Emissions
Permit Unit				Tank Capacity	Max Daily Throughput	Daily PE	Daily PE
C	629	289	8	195,216	392,000	160.7	675.4
C	629	290	8	198,000	392,000	160.7	685.1
C	629	291	8	198,000	392,000	160.7	685.1
C	629	292	8	198,000	392,000	160.7	685.1
C	629	293	8	198,000	392,000	160.7	685.1
C	629	294	8	198,000	392,000	160.7	685.1
C	629	295	8	198,000	392,000	160.7	685.1
C	629	296	8	198,000	392,000	160.7	685.1
C	629	297	8	198,000	392,000	160.7	685.1
C	629	298	8	198,000	392,000	160.7	685.1
C	629	299	8	198,000	392,000	160.7	685.1
C	629	300	8	198,000	392,000	160.7	685.1
C	629	301	8	198,000	392,000	160.7	685.1
C	629	302	8	198,000	392,000	160.7	685.1
C	629	303	7	121,000	363,000	148.8	418.7
C	629	304	7	121,000	363,000	148.8	418.7
C	629	305	7	121,000	363,000	148.8	418.7
C	629	306	7	121,000	363,000	148.8	418.7
C	629	307	7	45,500	363,000	148.8	157.4
C	629	308	7	45,500	363,000	148.8	157.4
C	629	309	7	45,500	363,000	148.8	157.4
C	629	310	7	45,500	363,000	148.8	157.4
C	629	311	7	45,500	363,000	148.8	157.4
C	629	312	7	45,500	363,000	148.8	157.4
C	629	313	7	45,500	363,000	148.8	157.4
C	629	314	7	45,500	363,000	148.8	157.4
C	629	315	7	45,500	363,000	148.8	157.4
C	629	316	7	45,500	363,000	148.8	157.4
C	629	317	7	121,000	363,000	148.8	418.7
C	629	318	7	121,000	363,000	148.8	418.7
C	629	319	7	121,000	363,000	148.8	418.7
C	629	320	7	121,000	363,000	148.8	418.7

C	629	325	5	86,780	261,000	107.0	300.3
C	629	326	5	86,780	261,000	107.0	300.3
C	629	327	5	86,780	261,000	107.0	300.3
C	629	328	5	86,780	261,000	107.0	300.3
C	629	329	5	86,780	261,000	107.0	300.3
C	629	330	5	86,780	261,000	107.0	300.3
C	629	331	5	86,780	261,000	107.0	300.3
C	629	332	5	86,780	261,000	107.0	300.3
C	629	333	6	6,500	31,000	12.7	22.5
C	629	334	6	6,500	31,000	12.7	22.5
C	629	335	6	6,500	31,000	12.7	22.5
C	629	336	6	6,500	31,000	12.7	22.5
C	629	337	6	6,500	31,000	12.7	22.5
C	629	338	6	6,500	31,000	12.7	22.5
C	629	339	6	196,000	392,000	160.7	678.2
C	629	340	6	196,000	392,000	160.7	678.2
C	629	341	6	196,000	392,000	160.7	678.2
C	629	342	6	196,000	392,000	160.7	678.2
C	629	343	6	86,780	261,000	107.0	300.3
C	629	344	6	86,780	261,000	107.0	300.3
C	629	345	6	86,780	261,000	107.0	300.3
C	629	346	6	86,780	261,000	107.0	300.3
C	629	347	6	86,780	261,000	107.0	300.3
C	629	348	6	86,780	261,000	107.0	300.3
C	629	349	6	13,300	66,500	27.3	46.0
C	629	350	6	13,300	66,500	27.3	46.0
C	629	351	6	13,300	66,500	27.3	46.0
C	629	352	6	13,300	66,500	27.3	46.0
C	629	353	6	13,300	66,500	27.3	46.0
C	629	354	6	13,300	66,500	27.3	46.0
C	629	355	6	13,300	66,500	27.3	46.0
C	629	356	6	13,300	66,500	27.3	46.0
C	629	357	6	13,300	66,500	27.3	46.0
C	629	358	6	13,300	66,500	27.3	46.0
C	629	359	6	45,226	135,000	55.4	156.5
C	629	360	6	45,226	135,000	55.4	156.5
C	629	361	6	45,226	135,000	55.4	156.5
C	629	362	6	45,226	135,000	55.4	156.5
C	629	363	6	45,226	135,000	55.4	156.5
C	629	364	6	45,226	135,000	55.4	156.5
C	629	365	6	120,000	363,000	148.8	415.2
C	629	366	6	120,000	363,000	148.8	415.2
C	629	367	6	87,000	261,000	107.0	301.0
C	629	368	6	87,000	261,000	107.0	301.0

C	629	369	6	87,000	261,000	107.0	301.0
C	629	370	6	87,000	261,000	107.0	301.0
C	629	371	6	87,000	261,000	107.0	301.0
C	629	372	6	87,000	261,000	107.0	301.0
C	629	373	6	87,000	261,000	107.0	301.0
C	629	374	6	87,000	261,000	107.0	301.0
C	629	375	6	87,000	261,000	107.0	301.0
C	629	376	6	87,000	261,000	107.0	301.0
C	629	377	6	87,000	261,000	107.0	301.0
C	629	378	6	87,000	261,000	107.0	301.0
C	629	379	5	87,000	261,000	107.0	301.0
C	629	380	5	87,000	261,000	107.0	301.0
C	629	381	6	87,000	261,000	107.0	301.0
C	629	382	6	87,000	261,000	107.0	301.0
C	629	383	5	255,000	392,000	160.7	882.3
C	629	384	5	255,000	392,000	160.7	882.3
C	629	385	5	255,000	392,000	160.7	882.3
C	629	386	5	255,000	392,000	160.7	882.3
C	629	387	5	255,000	392,000	160.7	882.3
C	629	388	3	87,000	261,000	107.0	301.0
C	629	389	3	87,000	261,000	107.0	301.0
C	629	390	3	87,000	261,000	107.0	301.0
C	629	391	3	87,000	261,000	107.0	301.0
C	629	392	3	87,000	261,000	107.0	301.0
C	629	393	3	87,000	261,000	107.0	301.0
C	629	394	3	87,000	261,000	107.0	301.0
C	629	395	3	87,000	261,000	107.0	301.0
C	629	396	3	87,000	261,000	107.0	301.0
C	629	397	3	87,000	261,000	107.0	301.0
C	629	398	3	87,000	261,000	107.0	301.0
C	629	399	3	87,000	261,000	107.0	301.0
C	629	400	4	87,000	261,000	107.0	301.0
C	629	401	5	87,000	261,000	107.0	301.0
C	629	402	4	13,300	66,500	27.3	46.0
C	629	403	4	13,300	66,500	27.3	46.0
C	629	404	4	13,300	66,500	27.3	46.0
C	629	405	4	13,300	66,500	27.3	46.0
C	629	406	4	13,300	66,500	27.3	46.0
C	629	407	4	13,300	66,500	27.3	46.0
C	629	408	4	13,300	66,500	27.3	46.0
C	629	409	4	13,300	66,500	27.3	46.0
C	629	410	4	13,300	66,500	27.3	46.0
C	629	411	4	13,300	66,500	27.3	46.0
C	629	412	4	13,300	66,500	27.3	46.0

C	629	413	4	13,300	66,500	27.3	46.0
C	629	414	4	13,300	66,500	27.3	46.0
C	629	415	4	13,300	66,500	27.3	46.0
C	629	416	4	13,300	66,500	27.3	46.0
C	629	417	4	13,300	66,500	27.3	46.0
C	629	418	4	13,300	66,500	27.3	46.0
C	629	419	4	13,300	66,500	27.3	46.0
C	629	420	4	13,300	66,500	27.3	46.0
C	629	421	4	13,300	66,500	27.3	46.0
C	629	422	4	13,300	66,500	27.3	46.0
C	629	423	4	13,300	66,500	27.3	46.0
C	629	424	3	13,300	66,500	27.3	46.0
C	629	425	3	13,300	66,500	27.3	46.0
C	629	426	3	13,300	66,500	27.3	46.0
C	629	427	3	13,300	66,500	27.3	46.0
C	629	428	3	13,300	66,500	27.3	46.0
C	629	429	3	13,300	66,500	27.3	46.0
C	629	430	7	14,400	66,500	27.3	49.8
C	629	431	7	14,400	66,500	27.3	49.8
C	629	436	3	44,800	89,600	36.7	n/a
C	629	437	3	44,800	89,600	36.7	n/a
C	629	438	3	44,800	89,600	36.7	n/a
C	629	439	3	44,800	89,600	36.7	n/a
C	629	440	3	37,500	75,000	30.8	n/a
C	629	441	3	37,500	75,000	30.8	n/a
C	629	442	3	37,500	75,000	30.8	n/a
C	629	443	3	37,500	75,000	30.8	n/a
C	629	446	2	87,000	261,000	107.0	301.0
C	629	447	2	87,000	261,000	107.0	301.0
C	629	448	2	87,000	261,000	107.0	301.0
C	629	449	2	87,000	261,000	107.0	301.0
C	629	450	2	87,000	261,000	107.0	301.0
C	629	451	2	87,000	261,000	107.0	301.0
C	629	452	2	87,000	261,000	107.0	301.0
C	629	453	2	87,000	261,000	107.0	301.0
C	629	454	2	87,000	261,000	107.0	301.0
C	629	455	2	87,000	261,000	107.0	301.0
C	629	456	2	87,000	261,000	107.0	301.0
C	629	457	2	87,000	261,000	107.0	301.0
C	629	458	2	87,000	261,000	107.0	301.0
C	629	459	2	87,000	261,000	107.0	301.0
C	629	460	2	65,500	196,500	80.6	226.6
C	629	461	2	65,500	196,500	80.6	226.6
C	629	462	2	65,500	196,500	80.6	226.6

C	629	463	2	65,500	196,500	80.6	226.6
C	629	464	2	65,500	196,500	80.6	226.6
C	629	465	2	65,500	196,500	80.6	226.6
C	629	466	1	65,500	196,500	80.6	226.6
C	629	467	1	65,500	196,500	80.6	226.6
C	629	468	1	33,000	132,000	54.1	114.2
C	629	469	1	33,000	132,000	54.1	114.2
C	629	470	1	33,000	132,000	54.1	114.2
C	629	471	1	33,000	132,000	54.1	114.2
C	629	472	1	33,000	132,000	54.1	114.2
C	629	473	1	33,000	132,000	54.1	114.2
C	629	474	1	33,000	132,000	54.1	114.2
C	629	475	1	33,000	132,000	54.1	114.2
C	629	476	1	33,000	132,000	54.1	114.2
C	629	477	1	33,000	132,000	54.1	114.2
C	629	478	1	33,000	132,000	54.1	114.2
C	629	479	1	33,000	132,000	54.1	114.2
C	629	480	1	33,000	132,000	54.1	114.2
C	629	481	1	33,000	132,000	54.1	114.2
C	629	482	1	33,000	132,000	54.1	114.2
C	629	483	1	33,000	132,000	54.1	114.2
C	629	484	1	6,750	33,750	13.8	23.4
C	629	485	1	6,750	33,750	13.8	23.4
C	629	486	1	6,750	33,750	13.8	23.4
C	629	487	1	6,750	33,750	13.8	23.4
C	629	488	1	6,750	33,750	13.8	23.4
C	629	489	1	6,750	33,750	13.8	23.4
C	629	490	2	6,750	33,750	13.8	23.4
C	629	491	2	6,750	33,750	13.8	23.4
C	629	492	2	6,750	33,750	13.8	23.4
C	629	493	2	6,750	33,750	13.8	23.4
C	629	559	1	15,900	31,800	13.0	n/a
C	629	560	1	15,900	31,800	13.0	n/a
C	629	561	1	15,900	31,800	13.0	n/a
C	629	562	1	15,900	31,800	13.0	n/a
C	629	563	1	13,300	66,500	27.3	n/a
C	629	564	1	13,300	66,500	27.3	n/a
C	629	565	1	13,300	66,500	27.3	n/a
C	629	566	1	13,300	66,500	27.3	n/a
C	629	567	1	13,300	66,500	27.3	n/a
C	629	568	1	13,300	66,500	27.3	n/a
C	629	569	1	13,300	66,500	27.3	n/a
C	629	570	1	13,300	66,500	27.3	n/a
C	629	571	1	13,300	66,500	27.3	n/a

C	629	572	1	13,300	66,500	27.3	n/a
C	629	573	1	6,520	19,560	8.0	n/a
C	629	574	1	6,520	19,560	8.0	n/a
C	629	575	1	6,520	19,560	8.0	n/a
C	629	576	1	6,520	19,560	8.0	n/a

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## **APPENDIX E**

### **Emission Increases Calculations**

# Emission Increases Calculations

The purpose of the following calculations is solely to determine the proposed project will trigger SB 288 Major Modification and/or Federal Major Modification. The facility has proposed to include the emissions from the new storage tanks in this project in three existing SLCs. The SLCs to be modified and the units included in these SLCs are listed in the table below. The emission values of these SLCs will not be changed with the addition of 66 new tanks under this project.

The facility is requesting to install 66 new storage tanks. These tanks will result in an increase of the facility's storage capacities, and no changes to the facility's fermentation, crushing or pressing capacities. Therefore, only emissions from wine storage will be calculated to determine emissions increases.

## 1. Potential to Emit (existing tanks)

The potential annual VOCs from the storage operations at this winery are determined as follows:

### White Wine Storage Emissions:

Storage emissions are calculated as follows:

$$W4 = (V_T \times D_w) / R_{TW} \text{ (limited by overall tank processing)}$$

Where,

$D_w$  = days in a white wine crush season = 120 days

$R_{TW}$  = total winery retention time for white wine = 40 + 10 = 50 days

$V_T$  = total winery cooperage = 38,632,027 gal (per Section V of this document)

Using the above parameters,

$$W4 = (38,632,027 \times 120) / 50 = 92.72 \text{ MG/year}$$

$$PE1_{\text{white}} = E_s \times T \times W_w$$

Where,

$E_s$  = wine storage emission factor based on District FYI-114. The tanks are allowed to store up to 23.9% alcohol by volume. Thus,  $E_s$  is equal to 0.226 lb-VOC/1,000 gal.

$T$  = total post fermentation inter-tank transfers per batch of wine  
= 8

$W_w$  = 92.72 MG/year (determined above)

$$\begin{aligned} PE1_{\text{white}} &= (0.226 \text{ lb-VOC/1,000 gal}) \times (8) \times (92.72 \times 10^6 \text{ gal/year}) \\ &= 167,638 \text{ lb-VOC/year} \end{aligned}$$

### Red Wine Storage Emissions:

Storage emissions are calculated as follows:

$$W4 = (V_T \times D_r) / R_{TS} \text{ (limited by overall tank processing)}$$

Where,

$D_r$  = days in a red wine crush season = 120 days

$R_{FR}$  = red fermentation period = 5 days

$R_{TS}$  = total winery retention time for red wine = 40 + 5 = 45 days

$V_T$  = total winery cooperage = 38,632,027 gal

Using the above parameters,

$$W4 = (38,632,027 \times 120) / 45 = 103.02 \text{ MG/year}$$

$$PE1_{red} = E_s \times T \times W_R$$

Where:

$E_s$  = wine storage emission factor based on District FYI-114. The tanks are allowed to store up to 23.9% alcohol by volume. Thus,  $E_s$  is equal to 0.226 lb-VOC/1,000 gal.

$T$  = total post fermentation inter-tank transfers per batch of wine  
= 8

$W_R$  = 103.02 MG/year (determined above)

$$\begin{aligned} PE1_{red} &= (0.226 \text{ lb-VOC/1,000 gal}) \times (8) \times (103.02 \times 10^6 \text{ gal/yr}) \\ &= 186,260 \text{ lb-VOC/year} \end{aligned}$$

### Summary:

The facility's emissions potential for storage operations is taken to be the greater of the white or red emissions potential determined above.

$$PE1 = \text{greater of } PE1_{white} \text{ or } PE1_{red} = \mathbf{186,260 \text{ lb-VOC/year}}$$

## 2. Potential to Emit (existing plus new tanks)

The potential annual VOCs from fermentation and storage operations at this winery are determined as follows:

### White Wine Storage Emissions:

Storage emissions are calculated as follows:

$$W4 = (V_T \times D_w) / R_{TW} \text{ (limited by overall tank processing)}$$

Where,

$D_w$  = days in a white wine crush season = 120 days

$R_{TW}$  = total winery retention time for white wine = 40 + 10 = 50 days

$V_T$  = total winery cooperage = 42,457,027 gal (per Section V of this document)

Using the above parameters,

$$W4 = (42,457,027 \times 120) / 50 = 101.90 \text{ MG/year}$$

$$PE2_{\text{white}} = E_s \times T \times W_w$$

Where,

$E_s$  = wine storage emission factor based on District FYI-114. The tanks are allowed to store up to 23.9% alcohol by volume. Thus,  $E_s$  is equal to 0.226 lb-VOC/1,000 gal.

$T$  = total post fermentation inter-tank transfers per batch of wine  
= 8

$W_w$  = 101.90 MG/year (determined above)

$$\begin{aligned} PE2_{\text{white}} &= (0.226 \text{ lb-VOC/1,000 gal}) \times (8) \times (101.90 \times 10^6 \text{ gal/year}) \\ &= 184,235 \text{ lb-VOC/year} \end{aligned}$$

### Red Wine Storage Emissions:

Storage emissions are calculated as follows:

$$W4 = (V_T \times D_r) / R_{TS} \text{ (limited by overall tank processing)}$$

Where,

$D_r$  = days in a red wine crush season = 120 days

$R_{FR}$  = red fermentation period = 5 days

$R_{TS}$  = total winery retention time for red wine = 40 + 5 = 45 days

$V_T$  = total winery cooperage = 42,457,027 gal

Using the above parameters,

$$W_4 = (42,457,027 \times 120) / 45 = 113.22 \text{ MG/year}$$

$$PE_{2\text{red}} = E_s \times T \times W_R$$

Where:

$E_s$  = wine storage emission factor based on District FYI-114. The tanks are allowed to store up to 23.9% alcohol by volume. Thus,  $E_s$  is equal to 0.226 lb-VOC/1,000 gal.

$T$  = total post fermentation inter-tank transfers per batch of wine  
= 8

$W_R$  = 113.22 MG/year (determined above)

$$\begin{aligned} PE_{2\text{red}} &= (0.226 \text{ lb-VOC/1,000 gal}) \times (8) \times (113.22 \times 10^6 \text{ gal/yr}) \\ &= 204,702 \text{ lb-VOC/year} \end{aligned}$$

#### Summary:

The facility's emissions potential for storage operations is taken to be the greater of the white or red emissions potential determined above.

$$PE_2 = \text{greater of } PE_{2\text{white}} \text{ or } PE_{2\text{red}} = \mathbf{204,702 \text{ lb-VOC/year}}$$

### **3. Potential Emission Increases (new tanks)**

The emissions increases from new tanks would be calculated as the difference between the post project and pre project potential emissions based on physical capacity. Thus,

Potential Emissions Increases Based on Physical Capacity of Wine Storage Tanks	
Category	Total (lb-VOC/yr)
Pre Project	186,260
Post Project	204,702
PE <sub>2N</sub>	18,442

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## **APPENDIX F**

### **BACT Guideline and Top-Down Analysis**

San Joaquin Valley  
Unified Air Pollution Control District

**Best Available Control Technology (BACT) Guideline 5.4.13\***

Last Update: 9/26/2011

**Wine Storage Tank - Non-Wood Material\*\***

<b>Pollutant</b>	<b>Achieved in Practice or contained in the SIP</b>	<b>Technologically Feasible</b>	<b>Alternate Basic Equipment</b>
VOC	1. Insulation or Equivalent***, Pressure Vacuum Relief Valve (PVRV) set within 10% of the maximum allowable working pressure of the tank; "gas-tight" tank operation; and continuous storage temperature not exceeding 75 degrees F, achieved within 60 days of completion of fermentation.	1. Capture of VOCs and thermal or catalytic oxidation or equivalent (98% control)  2. Capture of VOCs and carbon adsorption or equivalent (95% control)  3. Capture of VOCs and absorption or equivalent (90% control)  4. Capture of VOCs and condensation or equivalent (70% control)	

\*\*This guideline is applicable to a wine storage tank that is not constructed out of wooden materials.

\*\*\*Tanks made of heat-conducting materials such as stainless steel may be insulated or stored indoors (in a completely enclosed building, except for vents, doors and other essential openings) to limit exposure of diurnal temperature variations. Tanks made entirely of non-conducting materials such as concrete (except for fittings) are considered self-insulating.

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

**\*This is a Summary Page for this Class of Source**

## Top Down BACT Analysis for Wine Storage VOC Emissions

### Step 1 - Identify All Possible Control Technologies

The SJVUAPCD BACT Clearinghouse guideline 5.4.13, 2<sup>nd</sup> quarter 2015, identifies achieved in practice BACT for wine storage tanks as follows:

- 1) Insulation or Equivalent\*\*, Pressure Vacuum Relief Valve (PVRV) set within 10% of the maximum allowable working pressure of the tank; "gas-tight" tank operation; and continuous storage temperature not exceeding 75 degrees F, achieved within 60 days of completion of fermentation.

*\*\*Tanks made of heat-conducting materials such as stainless steel may be insulated or stored indoors (in a completely enclosed building, except for vents, doors and other essential openings) to limit exposure to diurnal temperature variations. Tanks made entirely of non-conducting materials such as concrete and wood (except for fittings) are considered self-insulating.*

The SJVUAPCD BACT Clearinghouse guideline 5.4.13, identifies technologically feasible BACT for wine storage tanks as follows:

- 1) Capture of VOCs and thermal or catalytic oxidation or equivalent (98% control)
- 2) Capture of VOCs and carbon adsorption or equivalent (95% control)
- 3) Capture of VOCs and absorption or equivalent (90% control)
- 4) Capture of VOCs and condensation or equivalent (70% control)

### Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

### Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Rank by Control Effectiveness		
Rank	Control	Overall Capture and Control Efficiency
1	Capture of VOCs and thermal or catalytic oxidation or equivalent	98%
2	Capture of VOCs and carbon adsorption or equivalent	95%
3	Capture of VOCs and absorption or equivalent	90%
4	Capture of VOCs and condensation or equivalent	70%
5	Insulation or Equivalent, Pressure Vacuum Relief Valve (PVRV) set within 10% of the maximum allowable working pressure of the tank; "gas-tight" tank operation; and continuous storage temperature not exceeding 75 degrees F, achieved within 60 days of completion of fermentation	Baseline (Achieved-in-Practice)

## Step 4 - Cost Effectiveness Analysis

A cost-effective analysis is performed for each control technology which is more effective than meeting the achieved-in-practice BACT requirements, as proposed by the facility.

### Collection System Capital Investment (based on ductwork)

A common feature of all thermal or catalytic oxidation/carbon adsorption/absorption or condensation options is that they require installation of a collection system for delivering the VOCs from the tanks to the common control device.

The following cost information is calculated below, and the bases of the cost information include:

- The costs for the ductwork and the required clean-in-place system are based on information from the 2005 Eichleay Study. The 2005 Eichleay Study was used in development of District Rule 4694 *Wine Fermentation and Storage Tanks* and includes substantial information on the costs and details of the potential application of VOC controls to wineries and addresses many of the technical issues of the general site specific factors for wineries.
- The collection system consists of stainless steel place ductwork (stainless steel is required due to food grade product status) with isolation valving, connecting the tanks to a common manifold system which ducts the combined vent to the common control device. The cost of dampers and isolation valving, installed in the ductwork, will be included in the cost estimate.
- A minimum duct size is established at six inches diameter at each tank to provide adequate strength for spanning between supports. The main header is twelve inches diameter to handle the potential for simultaneous venting.
- One of the major concerns of a manifold duct system is microorganisms spoiling the product, and transferring from one tank to another. It is possible to completely ruin a tank of one special type of highest proof distilled spirit if a few hundred gallons of medium grade distilled spirit were back fed through the duct. It is necessary to design into the system a positive disconnect of the ducting system when the tanks are not being filled. There are a number of ways this can be done. In this case, an automatic butterfly valve with a physical spool to disconnect the tank from the duct will be utilized.

### Capital Cost Ductwork

Connection from tank to main duct = 66 tanks x 25 feet x \$61.30/foot = \$101,145

Unit installed cost for 6 inch butterfly valve = \$2,125/valve x 66 valves x 2 systems = \$280,500

Unit installed cost one foot removable spool = \$500/tank x 66 tanks x 2 systems = \$66,000

Knockout drums = \$92,600 x 2 = \$185,200

Duct support allowance = \$5,000/tank x 66 tanks = \$330,000

Total = \$101,145 + \$280,500 + \$66,000 + \$185,200 + \$330,000 = \$962,845

<b>Ductwork</b>	
Cost Description	Cost (\$)
Duct Estimate from Eichleay Study 2005 Data	\$962,845
Adjusting factor from 2005 dollars to 2019 dollars (2.75% inflation/year)	1.3
Inflation adjusted duct cost	\$1,251,699
The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).	
<b>Direct Costs (DC)</b>	
Base Equipment Costs (Ductwork) See Above	\$1,251,699
Instrumentation 10%	\$125,170
Sales Tax 3%	\$37,551
Freight 5%	\$62,585
<b>Purchased equipment cost</b>	<b>\$1,477,005</b>
Foundations & supports 8%	\$118,160
Handling & erection 14%	\$206,781
Electrical 4%	\$59,080
Piping 2%	\$29,540
Painting 1%	\$14,770
Insulation 1%	\$14,770
<b>Direct installation costs</b>	<b>\$443,101</b>
<b>Total Direct Costs</b>	<b>\$1,920,106</b>
<b>Indirect Costs (IC)</b>	
Engineering 10%	\$147,701
Construction and field expenses 5%	\$73,850
Contractor fees 10%	\$147,701
Start-up 2%	\$29,540
Performance test 1%	\$14,770
Contingencies 3%	\$44,310
<b>Total Indirect Costs</b>	<b>\$457,872</b>
<b>Total Capital Investment (TCI) (DC + IC)</b>	<b>\$2,377,978</b>

#### Capital Cost Clean-In-Place (CIP) System

A ducting system on a tank farm must have this system to maintain sanitation and quality of the product. The cost of operation of the CIP system has not been estimated. Operation of a CIP system, using typical cleaning agents, will raise disposal and wastewater treatment costs. Most likely, these costs will be significant.

Clean-In-Place (CIP) System	
Cost Description	Cost (\$)
Current cost of CIP system	\$200,000
The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).	
Direct Costs (DC)	
Base Equipment Costs (CIP System) See Above	\$200,000
Instrumentation 10%	\$20,000
Sales Tax 3%	\$6,000
Freight 5%	\$10,000
<b>Purchased equipment cost</b>	<b>\$236,000</b>
Foundations & supports 8%	\$18,880
Handling & erection 14%	\$33,040
Electrical 4%	\$9,440
Piping 2%	\$4,720
Painting 1%	\$2,360
Insulation 1%	\$2,360
<b>Direct installation costs</b>	<b>\$70,800</b>
<b>Total Direct Costs</b>	<b>\$306,800</b>
Indirect Costs (IC)	
Engineering 10%	\$23,600
Construction and field expenses 5%	\$11,800
Contractor fees 10%	\$23,600
Start-up 2%	\$4,720
Performance test 1%	\$2,360
Contingencies 3%	\$7,080
<b>Total Indirect Costs</b>	<b>\$73,160</b>
<b>Total Capital Investment (TCI) (DC + IC)</b>	<b>\$379,960</b>

### Annualized Capital Costs

$$\begin{aligned}
 \text{Total capital costs} &= \text{Ductwork} + \text{CIP System} \\
 &= \$2,377,978 + \$379,960 \\
 &= \$2,757,938
 \end{aligned}$$

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

$$\text{Amortization Factor} = \left[ \frac{0.1(1.1)^{10}}{(1.1)^{10} - 1} \right] = 0.163 \text{ per District policy, amortizing over 10 years at 10\%}$$

Therefore,

$$\text{Annualized Capital Investment} = \$2,757,938 \times 0.163 = \$449,544$$

**Option 1 - Capture of VOCs & thermal/catalytic oxidation or equivalent (overall capture & control efficiency of 98%)**

The total capital investment cost and installation costs including freight for a Regenerative Thermal Oxidizer (RTO) used in this evaluation are based on the cost information provided by Adwest Technologies, Inc on September 12, 2014 for an RTO handling 1,000 scfm and an RTO handling 5,000 scfm. The potential flow rate from the tanks proposed in this project is 2,206 scfm (calculated below).

Based on conversations with the facility, the tanks will have a fill rate of 1,000 gallons/min. In addition, due to operational constraints, the facility is only able to fill 25% of the tanks at one time.

$$\begin{aligned}\text{Max cfm} &= [(66 \text{ new tanks}) \times (0.25)] \times [(1,000 \text{ gallons/minute}) \div (7.4805 \text{ gal/ft}^3)] \\ &= 2,206 \text{ cfm}\end{aligned}$$

The capital cost for a RTO designed to serve a 2,206 scfm flow rate will be interpolated using the cost of a RTO designed for a 1,000 scfm exhaust flow rate and the cost of a RTO designed for a 5,000 scfm exhaust flow rate.

$$\begin{aligned}\text{Capital Cost} &= \frac{(2,206 \text{ scfm} - 1,000 \text{ scfm}) \times (\$200,840 - \$150,000)}{(5,000 \text{ scfm} - 1,000 \text{ scfm})} + \$150,000 \\ &= \$165,328\end{aligned}$$

Thermal or Catalytic Oxidation	
Cost Description	Cost (\$)
Regenerative Thermal Oxidizer cost	\$165,328
The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).	
<b>Direct Costs (DC)</b>	
Base Equipment Costs (Regenerative Thermal Oxidizer System) See Above	\$165,328
Freight and Startup	\$22,900
Sales Tax 3.3125%	\$5,476
<b>Purchased equipment cost</b>	<b>\$193,704</b>
Foundations & supports 8%	\$15,496
Handling & erection 14%	\$27,119
Electrical 4%	\$7,748
Piping 2%	\$3,874
Painting 1%	\$1,937
Insulation 1%	\$1,937
<b>Direct installation costs</b>	<b>\$58,111</b>
<b>Total Direct Costs</b>	<b>\$251,815</b>
<b>Indirect Costs (IC)</b>	
Engineering 10%	\$19,370
Construction and field expenses 5%	\$9,685

Contractor fees 10%	\$19,370
Start-up (included above)	-
Performance test 1%	\$1,937
Contingencies 3%	\$5,811
<b>Total Indirect Costs</b>	<b>\$56,173</b>
<b>Total Capital Investment (TCI) (DC + IC)</b>	<b>\$307,988</b>

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

Annualized Capital Investment a thermal/catalytic oxidizer system = \$307,988 x 0.163  
= \$50,202

### Operation and Maintenance Costs

The Direct annual costs include labor (operating, supervisory, and maintenance), maintenance materials, electricity, and fuel.

Heat of Combustion for waste gas stream -dh(c):

heat of combustion -dHc = 20,276 Btu/lb  
Daily VOC emissions rate = 4,704.8 lb/day \* 0.25 = 1,176 lb/day  
Blower flow rate = 2,206 scfm  
= 3,176,640 ft<sup>3</sup>/day

$$\begin{aligned} -dh(c) &= 1,176 \text{ lb/day} \times 20,276 \text{ Btu/lb} / 3,176,640 \text{ ft}^3/\text{day} \\ &= 8.9 \text{ Btu/ft}^3 \end{aligned}$$

Assuming the waste gas is principally air, with a molecular weight of 28.97 and a corresponding density of 0.0739 lb/scf, the heat of combustion per pound of incoming waste gas is:

$$\begin{aligned} -dh(c) &= 8.9 \text{ Btu/ft}^3 / 0.0739 \text{ lb/ft}^3 \\ &= 120.4 \text{ Btu/lb} \end{aligned}$$

### Fuel Flow Requirement

$$Q(\text{fuel}) = \frac{P_w \cdot Q_w \cdot \{C_p \cdot [1.1T_f - T_w - 0.1T_r] - [-dh(c)]\}}{P(\text{ef}) \cdot [-dh(m) - 1.1 C_p \cdot (T_f - T_r)]}$$

Where

P <sub>w</sub>	=	0.0739 lb/ft <sup>3</sup>
C <sub>p</sub>	=	0.255 Btu/lb-°F
Q <sub>w</sub>	=	2,206 scfm
-dh(m)	=	21,502 Btu/lb for methane
T <sub>r</sub>	=	77 °F assume ambient conditions
P(ef)	=	0.0408 lb/ft <sup>3</sup> m, methane at 77 °F, 1 atm
T <sub>f</sub>	=	1600 °F
T <sub>w</sub>	=	1150 °F
-dh(c)	=	120.4 Btu/lb

$$\begin{aligned}
 Q &= \frac{0.0739 \times 2,206 \times \{0.255 \times [1.1 \times 1,600 - 1,150 - 0.1 \times 77] - 120.4\}}{0.0408 \times [21,502 - 1.1 \times 0.255 \times (1,600 - 77)]} \\
 &= 5,410 \div 860 = 6.3 \text{ ft}^3/\text{min}
 \end{aligned}$$

### Fuel Costs

The cost for natural gas shall be based upon the average price of natural gas sold to "Commercial Consumers" in California for the years 2011, 2012 and 2013.<sup>1</sup>

2013 = \$7.81/thousand ft<sup>3</sup> total monthly average  
 2012 = \$8.29/thousand ft<sup>3</sup> total monthly average  
 2011 = \$7.05/thousand ft<sup>3</sup> total monthly average  
 Average for three years = \$7.717/thousand ft<sup>3</sup> total monthly average

$$\begin{aligned}
 \text{Fuel Cost} &= 6.3 \text{ cfm} \times 12 \text{ hr/day} \times 60 \text{ min/hr} \times 365 \text{ day/year} \times \$7.717/1000 \text{ ft}^3 \\
 &= \$12,777/\text{year}
 \end{aligned}$$

### Electricity Requirement

$$\text{Power}_{\text{fan}} = \frac{1.17 \times 10^{-4} Q_w \Delta P}{\epsilon}$$

Where

$\Delta P$  = Pressure drop Across system = 10 in. H<sub>2</sub>O  
 $\epsilon$  = Efficiency for fan and motor = 0.6  
 $Q_w$  = 2,206 scfm

$$\begin{aligned}
 \text{Power}_{\text{fan}} &= \frac{1.17 \times 10^{-4} \times 2,206 \text{ cfm} \times 1.5 \times 10 \text{ in. H}_2\text{O}}{0.60 \times 0.90} \\
 &= 7.2 \text{ kW}
 \end{aligned}$$

### Electricity Costs

Average cost of electricity to commercial users in California <sup>2</sup>:

2012 = \$0.1023  
 2011 = \$0.1012  
 AVG = \$0.102

$$\text{Electricity Cost} = 7.2 \text{ kW} \times 12 \text{ hours/day} \times 365 \text{ days/year} \times \$0.102/\text{kWh} = \$3,217/\text{year}$$

### Total Operating and Maintenance Costs

<sup>1</sup> Energy Information Administration/Natural Gas; Average Price of Natural Gas Sold to Commercial Consumers by State, 2011 - 2013

<sup>2</sup> Energy Information Administration/Electric Power; Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State, 2011 - 2012

Annual Costs (Based on: EPA Air Pollution Control Cost Manual, Sixth Edition (January 2002), Section 3.2: VOC Destruction Controls, Chapter 2: Incinerators (September 2000), Table 2.10 - Annual Costs for Thermal and Catalytic Incinerators Example Problem. United States Environmental Protection Agency Office of Air Quality Planning and Standards. Research Triangle Park, North Carolina 27711. EPA/452/B-02-001)<sup>3</sup>

Annual Costs			
<b>Direct Annual Cost (DC)</b>			
<b>Operating Labor</b>			
Operator	0.5 hr/shift	\$18.50/hr x 0.5 hr/shift x 1.5 shift/day x 365 days/year	\$5,064
Supervisor	15% of operator		\$760
<b>Maintenance</b>			
Labor	0.5 h/shift	\$18.50/hr x 0.5 hr/shift x 1.5 shift/day x 365 days/year	\$5,064
Maintenance	100% of labor		\$5,064
<b>Utility</b>			
Natural Gas			\$12,777
Electricity			\$3,217
<b>Total DC</b>			<b>\$31,946</b>
<b>Indirect Annual Cost (IC)</b>			
Overhead	60% of Labor Cost	0.6 x (\$5,064 + \$760 + \$5,064)	\$10,888
Administrative	2% TCI		\$6,160
Property Taxes	1% TCI		\$3,080
Insurance	1% TCI		\$3,080
<b>Total IC</b>			<b>\$22,200</b>
<b>Annual Cost (DC + IC)</b>			<b>\$45,408</b>

Total Annual Cost = (Ductwork + CIP System) + RTO + Annual Costs  
= \$449,544 + \$50,202 + \$45,408  
= \$545,154

Annual Emission Reduction = Uncontrolled Emissions x 0.98  
= 23,324 lb-VOC/year x 0.98 x ton/2,000 lb  
= 11.4 tons-VOC/year

Cost Effectiveness = \$545,154/year ÷ 11.4 tons-VOC/year  
= \$47,821/ton-VOC

The cost of VOC reductions for this control system is more than the threshold limit of \$17,500/ton. Therefore, the capture and oxidation control system is not cost-effective for this installation.

<sup>3</sup> <http://epa.gov/ttn/catc/dir1/cs3-2ch2.pdf>

**Option 2 - Capture of VOCs and carbon adsorption or equivalent (overall capture & control efficiency of 95%)**

Carbon containment hardware including an inline filter, blower, exhaust silencer and air to air heat exchanger for a 50 cfm system was quoted as \$20,000 to \$25,000 by David Drewelow of Drewelow Remediation Equipment, Inc on February 3, 2015. To be conservative, the District will use \$20,000 as the cost for the carbon containment hardware.

The carbon bed operated with steam to regenerate the bed produces a water alcohol mixture. The waste stream or disposal costs have not been analyzed in this project. The new tanks in this project are limit by three existing SLCs with combined total emissions equal to 20,598 lb-VOC/year.

**Carbon Capital Cost**

$$\begin{aligned}\text{Annual Emission Reduction} &= \text{Storage Emissions} \times 0.86 \\ &= 23,324 \text{ lb-VOC/year} \times 0.86 \\ &= 20,059 \text{ lb-VOC/year}\end{aligned}$$

Assume a working bed capacity of 20% for carbon (weight of vapor per weight of carbon)

$$\begin{aligned}\text{Carbon required} &= 20,059 \text{ lbs-VOC/year} \times 1/0.20 \\ &= 100,295 \text{ lb carbon}\end{aligned}$$

David Drewelow also provided a cost of \$1.25/lb of carbon which does not include any delivery or servicing fees. Therefore, carbon capital cost = \$1.25/lb x 100,295 lb carbon = \$125,369.

<b>Carbon Adsorption</b>	
Cost Description	Cost (\$)
Carbon Adsorption cost	\$20,000
Water alcohol tank cost	\$5,000
Carbon Adsorption + water alcohol tank cost	\$25,000
Carbon Capital Cost (see above)	\$125,369
The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).	
<b>Direct Costs (DC)</b>	
Base Equipment Costs (Carbon Adsorption System + Carbon) See Above	\$150,369
Instrumentation 10%	\$15,037
Sales Tax 3.3125%	\$3,947
Freight 5%	\$7,518
<b>Purchased equipment cost</b>	<b>\$176,871</b>
Foundations & supports 8%	\$14,150
Handling & erection 14%	\$24,762
Electrical 4%	\$7,075
Piping 2%	\$3,537
Painting 1%	\$1,769
Insulation 1%	\$1,769
<b>Direct installation costs</b>	<b>\$53,062</b>
<b>Total Direct Costs</b>	<b>\$229,933</b>
<b>Indirect Costs (IC)</b>	
Engineering 10%	\$17,687
Construction and field expenses 5%	\$8,844
Contractor fees 10%	\$17,687
Start-up 2%	\$3,537
Performance test 1%	\$1,769
Contingencies 3%	\$5,306
<b>Total Indirect Costs</b>	<b>\$54,830</b>
<b>Total Capital Investment (TCI) (DC + IC)</b>	<b>\$284,763</b>

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

$$\text{Amortization Factor} = \left[ \frac{0.1(1.1)^{10}}{(1.1)^{10} - 1} \right] = 0.163 \text{ per District policy, amortizing over 10 years at 10\%}$$

Therefore,

$$\text{Annualized Capital Investment} = \$284,763 \times 0.163 = \$46,416$$

$$\begin{aligned} \text{Total Annual Cost} &= \text{Carbon Adsorption System} + \text{Ductwork} + \text{CIP System} \\ &= \$46,416 + \$449,544 \\ &= \$495,960 \end{aligned}$$

$$\begin{aligned} \text{Annual Emission Reduction} &= \text{Uncontrolled Emissions} \times 0.86 \\ &= 23,324 \text{ lb-VOC/year} \times 0.86 \times \text{ton}/2,000 \text{ lb} \\ &= 10.0 \text{ tons-VOC/year} \end{aligned}$$

$$\begin{aligned} \text{Cost Effectiveness} &= \$495,960/\text{year} \div 10.0 \text{ tons-VOC/year} \\ &= \$49,596/\text{ton-VOC} \end{aligned}$$

The cost of VOC reductions for this control system is more than the threshold limit of \$17,500/ton. Therefore, the capture and carbon adsorption control system is not cost-effective for this installation.

### **Option 3 - Capture of VOCs and absorption or equivalent (overall capture & control efficiency of 90%)**

The total capital investment costs and operating costs for an absorption system used in this evaluation are based on the information given in District project N-1133659. The scrubber under project N-1133659 was evaluated for the control of 84,864 pounds of VOC emissions. The potential VOC emissions from this project are 23,324 pounds, equivalent to approximately 27% of the emissions evaluated for control under project N-1133659.

Generally, when estimating costs from a known value, the rule of six-tenths is used to account for economy of scale. However, since the control device required for this project is smaller than the control device in the base project, the cost for the control device in this project will be scaled linearly. Scaling linearly results in lower capital cost and lower cost effectiveness. Therefore, the capital and installation costs provided in the cost estimate will be adjusted by a factor of 0.27 for purposes of this analysis.

Capital Cost for each Water Scrubber unit is as follows: Reactor and Portable Pumping Skids are \$60,000 and \$7,500 respectively. The total capital cost for all units is \$1,215,000 controlling 84,864 lbs-VOC. Therefore, the total capital cost for an equivalent system for this project is estimated to be \$328,050.

<b>Scrubber</b>	
Cost Description	Cost (\$)
Refrigerated Scrubber System	\$328,050
The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).	
<b>Direct Costs (DC)</b>	
Base Equipment Costs (Scrubber System) See Above	\$328,050
Instrumentation (\$2,000 per unit, assume 1 unit)	\$2,000
Sales Tax 3.3125%	\$10,867
Freight (included)	-
<b>Purchased equipment cost</b>	<b>\$340,917</b>
Foundations & supports (not required)	-
Handling & erection 2%	\$6,818
Electrical 1%	\$3,409
Piping 1%	\$3,409
Painting (not required)	-
Insulation (not required)	-
PLC & Programming (assume 1 unit)	\$10,000 <sup>4</sup>
Recovered Ethanol Storage Tank (installed)	\$5,000
<b>Direct installation costs</b>	<b>\$28,636</b>
<b>Total Direct Costs (TDC)</b>	<b>\$369,553</b>
<b>Indirect Costs (IC)</b>	
Engineering (5% of TDC)	\$18,478
Construction and field expenses (2% of TDC)	\$7,391
Permits (Building Department) (Allowance)	\$10,000
Contractor fees (2% of TDC)	\$7,391
Start-up (1% of TDC)	\$3,696
Source Testing (1 unit x \$15,000/unit)	\$15,000
Owner's Cost (Allowance)	\$5,556 <sup>5</sup>
<b>Total Indirect Costs</b>	<b>\$67,512</b>
<b>Subtotal Capital Investment (SCI)</b>	<b>\$437,065</b>
Project Contingency (20% of SCI)	\$87,413
<b>Total Capital Investment (TCI) (DC + IC)</b>	<b>\$524,478</b>

<sup>4</sup> From project N-1133659 for 18 units, PLC & Programming = \$180,000 (or \$10,000/unit)

<sup>5</sup> From project N-1133659 for 18 units, Owner's Cost = \$100,000 (or \$5,556/unit)

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

Annualized Capital Investment = \$524,478 x 0.163 = \$85,490

### Wastewater Disposal Costs

The water scrubber will generate ethanol-laden wastewater containing 10.5 tons (20,992 lbs) of ethanol annually (23,324 lb/year (uncontrolled emissions) x 0.90 ÷ 2000). Assuming a 10% solution, approximately 31,710 gallons of waste water (20,992 lb-ethanol x 1 gal/6.62 lb ÷ 0.10) will be generated annually. Based on information from NohBell Corporation, an allowance of \$0.08 per gallon is applied for disposal costs.

Annual disposal costs = 31,710 gallons x \$0.08/gallon = \$2,537

### Annual Costs

Annual Costs			
<b>Direct Annual Cost (DC)</b>			
<b>Operating Labor</b>			
Operator	0.5 hr/shift	\$18.50/hr x 0.5 hr/shift x 1.5 shift/day x 365 days/year	\$8,103
Supervisor	15% of operator		\$1,215
<b>Maintenance</b>			
Labor	1% of TCI		\$5,245
<b>Wastewater Disposal</b>			
	10% Solution = 31,710 gal	\$0.08/gal	\$2,570
<b>Utility</b>			
Electricity	1 unit x 2.5 hp x 0.746 kW/hp x 8,760 hr/yr = 16,337 kWh/yr	\$0.102/kWh	\$167
<b>Total DC</b>			<b>\$17,300</b>
<b>Indirect Annual Cost (IC)</b>			
Overhead	60% of Labor Cost	0.6 x (\$8,103 + \$1,215 + \$1,626)	\$6,566
Administrative	2% TCI		\$10,490
Property Taxes	1% TCI		\$5,245
Insurance	1% TCI		\$5,245
Annual Source Test	One representative test/year @ \$15,000		\$15,000
<b>Total IC</b>			<b>\$42,546</b>
<b>Annual Cost (DC + IC)</b>			<b>\$59,846</b>

Total Annual Cost = CIP System & Ductwork + Absorption System + Operating Costs  
 = \$449,544 + \$85,490 + \$59,846  
 = \$594,880

$$\begin{aligned}\text{Annual Emission Reduction} &= \text{Uncontrolled Emissions} \times 0.90 \\ &= 23,324 \text{ lb-VOC/year} \times 0.90 \times \text{ton}/2,000 \text{ lb} \\ &= 10.5 \text{ tons-VOC/year}\end{aligned}$$

$$\begin{aligned}\text{Cost Effectiveness} &= \$594,880/\text{year} \div 10.5 \text{ tons-VOC/year} \\ &= \$56,655/\text{ton-VOC}\end{aligned}$$

The cost of VOC reductions of this control system is more than the threshold limit of \$17,500/ton. Therefore, the absorption control system is not cost-effective for this installation.

**Option 4 – Capture of VOCs and condensation or equivalent (overall capture & control efficiency of 70%)**

The total capital investment costs and operating costs for condensation system used in this evaluation are based on the information given in District project N-1133659. Similar assumption in option 3 discussed above applies; the capital cost given in project N-1133659 will be adjusted by a factor of 27% for purposes of this analysis. In addition, no value will be given for the ethanol that is recovered from the condensation system since the recovered ethanol has not been conclusively demonstrated to have a value in practice and could actually result in additional costs for disposal.

Generally, when estimating costs from a known value, the rule of six-tenths is used to account for economy of scale. However, since the control device required for this project is smaller than the control device in the base project, the cost for the control device in this project will be scaled linearly. Scaling linearly results in lower capital cost and lower cost effectiveness. Therefore, the capital and installation costs provided in the cost estimate will be adjusted by a factor of 0.27 for purposes of this analysis.

The total capital cost provided in project N-1133659 is \$1,901,272 for 4 units controlling 84,864 lbs-VOC. Therefore, the total capital cost for an equivalent system for this project is estimated to be \$513,343.

<b>Condensation</b>	
Cost Description	Cost (\$)
Cost of Refrigerated Condenser system (1 PAS Unit)	\$513,343
The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).	
<b>Direct Costs (DC)</b>	
Base Equipment Costs (Condenser) See Above	\$513,343
Instrumentation (included)	-
Sales Tax (included)	-
Freight (included)	-
<b>Purchased equipment cost</b>	<b>\$513,343</b>
Labor (estimated from project N-1133659)	\$326
Installation Expense (estimated from project N-1133659)	\$237
Subcontracts (estimated from project N-1133659)	\$72
PLC/Programming (assume 1 unit)	\$45,000 <sup>6</sup>
<b>Direct installation costs</b>	<b>\$45,635</b>
<b>Total Direct Costs (TDC)</b>	<b>\$558,978</b>
<b>Indirect Costs (IC)</b>	
Engineering (5% of TDC)	\$27,949
Permits (Building Department) (Allowance)	\$2,500 <sup>7</sup>
Initial Source Testing (\$15,000/unit)	\$15,000
Owner's Cost (Allowance)	\$5,556
<b>Total Indirect Cost</b>	<b>\$51,005</b>
<b>Subtotal Capital Investment (SCI)</b>	<b>\$609,983</b>
Project Contingency (20% of SCI)	\$121,997
<b>Total Capital Investment (TCI) (DC + IC + Contingency)</b>	<b>\$731,980</b>

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

Annualized Capital Investment = \$731,980 x 0.163 = \$119,313

<sup>6</sup> From project N-1133659 for 4 units, PLC & Programming = \$180,000 (or \$45,000/unit)

<sup>7</sup> From project N-1133659 for 4 units, Permits = \$10,000 (or \$2,500/unit)

## Annual Costs

Annual Costs			
<b>Direct Annual Cost (DC)</b>			
<b>Operating Labor</b>			
Operator	0.5 hr/shift	\$18.50/hr x 0.5 hr/shift x 1.5 shift/day x 365 days/year	\$8,103
Supervisor	15% of operator		\$1,215
<b>Maintenance</b>			
Labor	1% of TCI		\$7,320
<b>Chiller (Glycol)</b>			
	5,000 lb-VOC/year (uncontrolled storage emissions) x 0.90 ÷ 2000	\$270/ton EtOH	\$608
<b>Utility</b>			
Electricity		\$0.102/kWh	\$0
<b>Total DC</b>			<b>\$17,246</b>
<b>Indirect Annual Cost (IC)</b>			
Overhead	60% of Labor Cost	0.6 x (\$8,103 + \$1,215 + \$7,320)	\$9,983
Administrative	2% TCI		\$14,640
Property Taxes	1% TCI		\$7,320
Insurance	1% TCI		\$7,320
Annual Source Test	One representative test/year @ \$15,000		\$15,000
<b>Total IC</b>			<b>\$54,263</b>
<b>Annual Cost (DC + IC)</b>			<b>\$71,509</b>

$$\begin{aligned}
 \text{Total Annual Cost} &= \text{CIP System \& Ductwork} + \text{Condensation System} + \text{Operating Costs} \\
 &= \$449,544 + \$119,313 + \$71,509 \\
 &= \$640,366
 \end{aligned}$$

$$\begin{aligned}
 \text{Annual Emission Reduction} &= \text{Uncontrolled Emissions} \times 0.70 \\
 &= 23,324 \text{ lb-VOC/year} \times 0.70 \times \text{ton}/2,000 \text{ lb} \\
 &= 8.2 \text{ tons-VOC/year}
 \end{aligned}$$

$$\begin{aligned}
 \text{Cost Effectiveness} &= \$640,366/\text{year} \div 8.2 \text{ tons-VOC/year} \\
 &= \$78,093/\text{ton-VOC}
 \end{aligned}$$

The cost of VOC reductions of this control system is more than the threshold limit of \$17,500/ton. Therefore, the condensation control system is not cost-effective for this installation.

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## **Step 5 - Select BACT**

All identified feasible options with control efficiencies higher than the option proposed by the facility have been shown to not be cost effective. The facility has proposed Option 1, insulated tank, pressure/vacuum valve set within 10% of the maximum allowable working pressure of the tank, "gas tight" tank operation and achieve and maintain a continuous storage temperature not exceeding 75°F within 60 days of completion of fermentation. These BACT requirements will be placed on the ATC as enforceable conditions.

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## **APPENDIX G**

### **Compliance Certification**



July 27<sup>th</sup> 2015

Mr. Fukuda Derek, P.E.  
San Joaquin Valley Air Pollution Control District  
1990 E. Gettysburg Ave,  
Fresno, Ca 93726-0244

Re: O'Neill Beverage Co. - Application for new ATCs

Dear Mr. Fukuda,

This letter is provided in response to a request concerning O'Neill Beverage Co. application to the San Joaquin Valley Air Board for authority to construct new storage tanks under several of our SLCs. Other than the Parlier, California facility which is subject to the application, neither O'Neill, nor any other entity which controls, is controlled by, or is under common control with O'Neill owns or operates any "major stationary source" (as defined by the federal clean air act, Title 42 United States Code, sections 7401 *et. Seq.* for purposes of District Rule 2201, section 4.15.2) within the State of California.

Please feel free to contact me at (559) 638-3544 with any comments or concerns.

Sincerely,

Erik Ettner

Brandy Maker

O'Neill Vintners and Distillers

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## **APPENDIX H**

### **Billing Information**

## Billing Information

Permit Unit				Fee Schedule		Fee Description
C	629	289	8	3020-05	E	195,216 gallons
C	629	290	8	3020-05	E	198,000 gallons
C	629	291	8	3020-05	E	198,000 gallons
C	629	292	8	3020-05	E	198,000 gallons
C	629	293	8	3020-05	E	198,000 gallons
C	629	294	8	3020-05	E	198,000 gallons
C	629	295	8	3020-05	E	198,000 gallons
C	629	296	8	3020-05	E	198,000 gallons
C	629	297	8	3020-05	E	198,000 gallons
C	629	298	8	3020-05	E	198,000 gallons
C	629	299	8	3020-05	E	198,000 gallons
C	629	300	8	3020-05	E	198,000 gallons
C	629	301	8	3020-05	E	198,000 gallons
C	629	302	8	3020-05	E	198,000 gallons
C	629	303	7	3020-05	E	121,000 gallons
C	629	304	7	3020-05	E	121,000 gallons
C	629	305	7	3020-05	E	121,000 gallons
C	629	306	7	3020-05	E	121,000 gallons
C	629	307	7	3020-05	C	45,500 gallons
C	629	308	7	3020-05	C	45,500 gallons
C	629	309	7	3020-05	C	45,500 gallons
C	629	310	7	3020-05	C	45,500 gallons
C	629	311	7	3020-05	C	45,500 gallons
C	629	312	7	3020-05	C	45,500 gallons
C	629	313	7	3020-05	C	45,500 gallons
C	629	314	7	3020-05	C	45,500 gallons
C	629	315	7	3020-05	C	45,500 gallons
C	629	316	7	3020-05	C	45,500 gallons
C	629	317	7	3020-05	E	121,000 gallons
C	629	318	7	3020-05	E	121,000 gallons
C	629	319	7	3020-05	E	121,000 gallons
C	629	320	7	3020-05	E	121,000 gallons
C	629	325	5	3020-05	D	86,780 gallons
C	629	326	5	3020-05	D	86,780 gallons
C	629	327	5	3020-05	D	86,780 gallons
C	629	328	5	3020-05	D	86,780 gallons
C	629	329	5	3020-05	D	86,780 gallons
C	629	330	5	3020-05	D	86,780 gallons
C	629	331	5	3020-05	D	86,780 gallons
C	629	332	5	3020-05	D	86,780 gallons
C	629	333	6	3020-05	B	6,500 gallons
C	629	334	6	3020-05	B	6,500 gallons
C	629	335	6	3020-05	B	6,500 gallons

C	629	336	6	3020-05	B	6,500 gallons
C	629	337	6	3020-05	B	6,500 gallons
C	629	338	6	3020-05	B	6,500 gallons
C	629	339	6	3020-05	E	196,000 gallons
C	629	340	6	3020-05	E	196,000 gallons
C	629	341	6	3020-05	E	196,000 gallons
C	629	342	6	3020-05	E	196,000 gallons
C	629	343	6	3020-05	D	86,780 gallons
C	629	344	6	3020-05	D	86,780 gallons
C	629	345	6	3020-05	D	86,780 gallons
C	629	346	6	3020-05	D	86,780 gallons
C	629	347	6	3020-05	D	86,780 gallons
C	629	348	6	3020-05	D	86,780 gallons
C	629	349	6	3020-05	B	13,300 gallons
C	629	350	6	3020-05	B	13,300 gallons
C	629	351	6	3020-05	B	13,300 gallons
C	629	352	6	3020-05	B	13,300 gallons
C	629	353	6	3020-05	B	13,300 gallons
C	629	354	6	3020-05	B	13,300 gallons
C	629	355	6	3020-05	B	13,300 gallons
C	629	356	6	3020-05	B	13,300 gallons
C	629	357	6	3020-05	B	13,300 gallons
C	629	358	6	3020-05	B	13,300 gallons
C	629	359	6	3020-05	C	45,226 gallons
C	629	360	6	3020-05	C	45,226 gallons
C	629	361	6	3020-05	C	45,226 gallons
C	629	362	6	3020-05	C	45,226 gallons
C	629	363	6	3020-05	C	45,226 gallons
C	629	364	6	3020-05	C	45,226 gallons
C	629	365	6	3020-05	E	120,000 gallons
C	629	366	6	3020-05	E	120,000 gallons
C	629	367	6	3020-05	D	87,000 gallons
C	629	368	6	3020-05	D	87,000 gallons
C	629	369	6	3020-05	D	87,000 gallons
C	629	370	6	3020-05	D	87,000 gallons
C	629	371	6	3020-05	D	87,000 gallons
C	629	372	6	3020-05	D	87,000 gallons
C	629	373	6	3020-05	D	87,000 gallons
C	629	374	6	3020-05	D	87,000 gallons
C	629	375	6	3020-05	D	87,000 gallons
C	629	376	6	3020-05	D	87,000 gallons
C	629	377	6	3020-05	D	87,000 gallons
C	629	378	6	3020-05	D	87,000 gallons
C	629	379	5	3020-05	D	87,000 gallons
C	629	380	5	3020-05	D	87,000 gallons
C	629	381	6	3020-05	D	87,000 gallons

C	629	382	6	3020-05	D	87,000 gallons
C	629	383	5	3020-05	E	255,000 gallons
C	629	384	5	3020-05	E	255,000 gallons
C	629	385	5	3020-05	E	255,000 gallons
C	629	386	5	3020-05	E	255,000 gallons
C	629	387	5	3020-05	E	255,000 gallons
C	629	388	3	3020-05	D	87,000 gallons
C	629	389	3	3020-05	D	87,000 gallons
C	629	390	3	3020-05	D	87,000 gallons
C	629	391	3	3020-05	D	87,000 gallons
C	629	392	3	3020-05	D	87,000 gallons
C	629	393	3	3020-05	D	87,000 gallons
C	629	394	3	3020-05	D	87,000 gallons
C	629	395	3	3020-05	D	87,000 gallons
C	629	396	3	3020-05	D	87,000 gallons
C	629	397	3	3020-05	D	87,000 gallons
C	629	398	3	3020-05	D	87,000 gallons
C	629	399	3	3020-05	D	87,000 gallons
C	629	400	4	3020-05	D	87,000 gallons
C	629	401	5	3020-05	D	87,000 gallons
C	629	402	4	3020-05	B	13,300 gallons
C	629	403	4	3020-05	B	13,300 gallons
C	629	404	4	3020-05	B	13,300 gallons
C	629	405	4	3020-05	B	13,300 gallons
C	629	406	4	3020-05	B	13,300 gallons
C	629	407	4	3020-05	B	13,300 gallons
C	629	408	4	3020-05	B	13,300 gallons
C	629	409	4	3020-05	B	13,300 gallons
C	629	410	4	3020-05	B	13,300 gallons
C	629	411	4	3020-05	B	13,300 gallons
C	629	412	4	3020-05	B	13,300 gallons
C	629	413	4	3020-05	B	13,300 gallons
C	629	414	4	3020-05	B	13,300 gallons
C	629	415	4	3020-05	B	13,300 gallons
C	629	416	4	3020-05	B	13,300 gallons
C	629	417	4	3020-05	B	13,300 gallons
C	629	418	4	3020-05	B	13,300 gallons
C	629	419	4	3020-05	B	13,300 gallons
C	629	420	4	3020-05	B	13,300 gallons
C	629	421	4	3020-05	B	13,300 gallons
C	629	422	4	3020-05	B	13,300 gallons
C	629	423	4	3020-05	B	13,300 gallons
C	629	424	3	3020-05	B	13,300 gallons
C	629	425	3	3020-05	B	13,300 gallons
C	629	426	3	3020-05	B	13,300 gallons
C	629	427	3	3020-05	B	13,300 gallons

C	629	428	3	3020-05	B	13,300 gallons
C	629	429	3	3020-05	B	13,300 gallons
C	629	430	7	3020-05	B	14,400 gallons
C	629	431	7	3020-05	B	14,400 gallons
C	629	436	3	3020-05	C	44,800 gallons
C	629	437	3	3020-05	C	44,800 gallons
C	629	438	3	3020-05	C	44,800 gallons
C	629	439	3	3020-05	C	44,800 gallons
C	629	440	3	3020-05	C	37,500 gallons
C	629	441	3	3020-05	C	37,500 gallons
C	629	442	3	3020-05	C	37,500 gallons
C	629	443	3	3020-05	C	37,500 gallons
C	629	446	2	3020-05	D	87,000 gallons
C	629	447	2	3020-05	D	87,000 gallons
C	629	448	2	3020-05	D	87,000 gallons
C	629	449	2	3020-05	D	87,000 gallons
C	629	450	2	3020-05	D	87,000 gallons
C	629	451	2	3020-05	D	87,000 gallons
C	629	452	2	3020-05	D	87,000 gallons
C	629	453	2	3020-05	D	87,000 gallons
C	629	454	2	3020-05	D	87,000 gallons
C	629	455	2	3020-05	D	87,000 gallons
C	629	456	2	3020-05	D	87,000 gallons
C	629	457	2	3020-05	D	87,000 gallons
C	629	458	2	3020-05	D	87,000 gallons
C	629	459	2	3020-05	D	87,000 gallons
C	629	460	2	3020-05	D	65,500 gallons
C	629	461	2	3020-05	D	65,500 gallons
C	629	462	2	3020-05	D	65,500 gallons
C	629	463	2	3020-05	D	65,500 gallons
C	629	464	2	3020-05	D	65,500 gallons
C	629	465	2	3020-05	D	65,500 gallons
C	629	466	1	3020-05	D	65,500 gallons
C	629	467	1	3020-05	D	65,500 gallons
C	629	468	1	3020-05	C	33,000 gallons
C	629	469	1	3020-05	C	33,000 gallons
C	629	470	1	3020-05	C	33,000 gallons
C	629	471	1	3020-05	C	33,000 gallons
C	629	472	1	3020-05	C	33,000 gallons
C	629	473	1	3020-05	C	33,000 gallons
C	629	474	1	3020-05	C	33,000 gallons
C	629	475	1	3020-05	C	33,000 gallons
C	629	476	1	3020-05	C	33,000 gallons
C	629	477	1	3020-05	C	33,000 gallons
C	629	478	1	3020-05	C	33,000 gallons
C	629	479	1	3020-05	C	33,000 gallons

C	629	480	1	3020-05	C	33,000 gallons
C	629	481	1	3020-05	C	33,000 gallons
C	629	482	1	3020-05	C	33,000 gallons
C	629	483	1	3020-05	C	33,000 gallons
C	629	484	1	3020-05	B	6,750 gallons
C	629	485	1	3020-05	B	6,750 gallons
C	629	486	1	3020-05	B	6,750 gallons
C	629	487	1	3020-05	B	6,750 gallons
C	629	488	1	3020-05	B	6,750 gallons
C	629	489	1	3020-05	B	6,750 gallons
C	629	490	2	3020-05	B	6,750 gallons
C	629	491	2	3020-05	B	6,750 gallons
C	629	492	2	3020-05	B	6,750 gallons
C	629	493	2	3020-05	B	6,750 gallons
C	629	559	1	3020-05	B	15,900 gallons
C	629	560	1	3020-05	B	15,900 gallons
C	629	561	1	3020-05	B	15,900 gallons
C	629	562	1	3020-05	B	15,900 gallons
C	629	563	1	3020-05	B	13,300 gallons
C	629	564	1	3020-05	B	13,300 gallons
C	629	565	1	3020-05	B	13,300 gallons
C	629	566	1	3020-05	B	13,300 gallons
C	629	567	1	3020-05	B	13,300 gallons
C	629	568	1	3020-05	B	13,300 gallons
C	629	569	1	3020-05	B	13,300 gallons
C	629	570	1	3020-05	B	13,300 gallons
C	629	571	1	3020-05	B	13,300 gallons
C	629	572	1	3020-05	B	13,300 gallons
C	629	573	1	3020-05	B	6,520 gallons
C	629	574	1	3020-05	B	6,520 gallons
C	629	575	1	3020-05	B	6,520 gallons
C	629	576	1	3020-05	B	6,520 gallons
C	629	577	0	3020-05	C	20,000 gallons
C	629	578	0	3020-05	C	20,000 gallons
C	629	579	0	3020-05	C	20,000 gallons
C	629	580	0	3020-05	C	20,000 gallons
C	629	581	0	3020-05	C	20,000 gallons
C	629	582	0	3020-05	C	20,000 gallons
C	629	583	0	3020-05	C	20,000 gallons
C	629	584	0	3020-05	C	20,000 gallons
C	629	585	0	3020-05	C	20,000 gallons
C	629	586	0	3020-05	C	20,000 gallons
C	629	587	0	3020-05	C	20,000 gallons
C	629	588	0	3020-05	C	20,000 gallons
C	629	589	0	3020-05	C	20,000 gallons
C	629	590	0	3020-05	C	20,000 gallons

C	629	591	0	3020-05	C	20,000 gallons
C	629	592	0	3020-05	C	20,000 gallons
C	629	593	0	3020-05	C	20,000 gallons
C	629	594	0	3020-05	C	20,000 gallons
C	629	595	0	3020-05	C	33,000 gallons
C	629	596	0	3020-05	C	33,000 gallons
C	629	597	0	3020-05	C	33,000 gallons
C	629	598	0	3020-05	C	33,000 gallons
C	629	599	0	3020-05	C	33,000 gallons
C	629	600	0	3020-05	C	33,000 gallons
C	629	601	0	3020-05	C	33,000 gallons
C	629	602	0	3020-05	C	33,000 gallons
C	629	603	0	3020-05	C	33,000 gallons
C	629	604	0	3020-05	C	33,000 gallons
C	629	605	0	3020-05	D	65,000 gallons
C	629	606	0	3020-05	D	65,000 gallons
C	629	607	0	3020-05	D	65,000 gallons
C	629	608	0	3020-05	D	65,000 gallons
C	629	609	0	3020-05	C	65,000 gallons
C	629	610	0	3020-05	D	65,000 gallons
C	629	611	0	3020-05	D	65,000 gallons
C	629	612	0	3020-05	D	65,000 gallons
C	629	613	0	3020-05	D	65,000 gallons
C	629	614	0	3020-05	D	65,000 gallons
C	629	615	0	3020-05	D	65,000 gallons
C	629	616	0	3020-05	D	65,000 gallons
C	629	617	0	3020-05	D	65,000 gallons
C	629	618	0	3020-05	D	65,000 gallons
C	629	619	0	3020-05	D	65,000 gallons
C	629	620	0	3020-05	D	65,000 gallons
C	629	621	0	3020-05	D	65,000 gallons
C	629	622	0	3020-05	D	65,000 gallons
C	629	623	0	3020-05	D	65,000 gallons
C	629	624	0	3020-05	D	65,000 gallons
C	629	625	0	3020-05	D	65,000 gallons
C	629	626	0	3020-05	D	65,000 gallons
C	629	627	0	3020-05	D	65,000 gallons
C	629	628	0	3020-05	D	65,000 gallons
C	629	629	0	3020-05	D	65,000 gallons
C	629	630	0	3020-05	E	105,000 gallons
C	629	631	0	3020-05	E	105,000 gallons
C	629	632	0	3020-05	E	105,000 gallons
C	629	633	0	3020-05	E	105,000 gallons
C	629	634	0	3020-05	E	105,000 gallons
C	629	635	0	3020-05	E	105,000 gallons
C	629	636	0	3020-05	E	105,000 gallons

C	629	637	0	3020-05	E	105,000 gallons
C	629	638	0	3020-05	E	105,000 gallons
C	629	639	0	3020-05	E	105,000 gallons
C	629	640	0	3020-05	E	105,000 gallons
C	629	641	0	3020-05	E	105,000 gallons
C	629	642	0	3020-05	E	250,000 gallons